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N. A. Olien and L. A. Hall



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NATIONAL BUREAU OF STANDARDS

Technical Note 309

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A BIBLIOGRAPHY OF EXPERIMENTAL SATURATION PROPERTIES OF THE CRYOGENIC FLUIDS

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A BIBLIOGRAPHY OF EXPERIMENTAL SATURATION
PROPERTIES OF THE CRYOGENIC FLUIDS¹

N. A. Olien and L. A. Hall

249 99

A bibliography of 507 references to experimental work is presented for the properties of the cryogenic fluids in the solid, liquid, and vapor phases at saturation. The cryogenic fluids included are helium, hydrogen, neon, nitrogen, oxygen, air, carbon monoxide, fluorine, argon, methane, and isotopes of helium, hydrogen, and methane. Each article has been reviewed and coded for properties, method of presentation of the data, and temperature range. An index lists each fluid in five categories: solid-solid transition, solid-liquid transition, solid-vapor transition, liquid-vapor transition, and triple point. For helium the liquid-liquid transition is also included. Each category is indexed by the properties: pressure-temperature data, density and heat capacity of all phases at saturation, and latent heats.

Author
1. INTRODUCTION

The mission of the Data Compilation Unit of the Cryogenic Data Center is the critical evaluation of quantitative information from the world's literature related to the thermophysical properties of materials at cryogenic temperatures. The determination of the saturation boundaries is a primary consideration in the compilation of the properties of cryogenic fluids, and in the determination of physical equilibria properties of fluid mixtures. The Documentation Unit of the Cryogenic Data Center has in its mission the review of the world's literature for selection of pertinent material to be included in an information storage and retrieval system; this review is presently concentrated on the properties of solids and fluids at cryogenic temperatures. This bibliography is the result of a joint effort of the Data Compilation and Documentation Units.

¹ This bibliography is a result of a study made under contract with the National Aeronautics and Space Administration.

2. METHOD OF LITERATURE SEARCH

The literature search for this bibliography was started in May 1962. The initial search was of an existing file of literature maintained by the Data Compilation Unit which includes the subject area of this bibliography. The existing file was derived from the literature collected in the preparation of the "Compendium"². The literature file of the Data Compilation Unit on the properties of fluids and solids from ambient to cryogenic temperatures has grown in size from approximately 1000 selected documents in 1962 to over 4000 selected documents at the time of this report. This file is particularly appropriate for collecting information on the subject of this bibliography since there have been continuing searches for literature reporting the properties of helium, hydrogen, neon, nitrogen, oxygen, air, carbon monoxide, fluorine, argon, and methane. The search for literature pertinent to this bibliography was conducted as follows:

- 1) each article in the file was examined in detail for any saturation property information,
- 2) all articles containing original information were noted for inclusion in the bibliography,
- 3) all references to saturation properties in the literature reviewed were noted and copies obtained,
- 4) all new material routinely entering the file was reviewed in a like manner. (The growth of the total literature file during the period of the search was approximately 100 new items per month.)

The search of the existing literature file yielded 204 references to original data. An additional 457 references were noted in reviewing the citations listed in the documents on file. These additional references were acquired and 215 were found to contain original data for saturation properties. Surveillance of the new literature entering the Cryogenic Data Center's bibliographic system during the period of this study yielded another 72 pertinent references.

² "A Compendium of the Properties of Materials at Low Temperature (Phase I.) Part I. Properties of Fluids", V. J. Johnson, Editor, Wright Air Development Division Tech. Rept. 60-56 (1960) 560 p.

The type of search program used for this bibliography could be described as retrospective search by means of citations from a set of relevant documents. This method represents a departure from the usual search of abstracting journals and indexing services. Although citation searching is not new, there is a dearth of literature justifying its use in bibliography preparation. The search strategy used here is a partial adaptation of the method, formulated by Cezairliyan, et al.^{3,4} and Lykoudis, et al.⁵ and the citation index developed by Garfield^{6,7,8,9}. Since this search strategy is not fully documented, to insure comprehensiveness, further searching was necessary. Therefore, Chemical Abstracts were searched for the properties involved from volumes 21 through 57 (1925 through 1962). As a result 53 new articles were found of which 16 were determined to have original data and were entered into the bibliography.

³ "Analytical and Experimental Study of a Method for Literature Search in Abstracting Journals", A. O. Cezairliyan, P. S. Lykoudis, and Y. S. Touloukian, Thermophysical Properties Research Center Rept. No. 11 (Dec 1960).

⁴ "A New Method for the Search of Scientific Literature through Abstracting Journals", A. O. Cezairliyan, P. S. Lykoudis, and Y. S. Touloukian, J. Chem. Doc. 2, No. 2, 86-92 (1962).

⁵ "Analytical Study of a Method for Literature Search in Abstracting Journals", P. S. Lykoudis, P. E. Liley, and Y. S. Touloukian, Thermophysical Properties Research Center Publ. No. 2, Purdue Univ., Lafayette, Ind. (1958).

⁶ "Citation Indexes for Science", E. Garfield, Science 122, 108-11 (1955).

⁷ "New Factors in the Evaluation of Scientific Literature through Citation Indexing", E. Garfield, and I. H. Sher, Am. Doc. 14, 195-201 (Jul 1963).

⁸ "Citation Indexes in Sociological and Historical Research", E. Garfield, Am. Doc. 14, 289-91 (Oct 1963).

⁹ "Science Citation Index - A New Dimension in Indexing", E. Garfield, Science 144, 649-54 (May 1964).

3. FORMAT FOR LISTING CITATION AND DOCUMENT CONTENTS

The citations have been arranged alphabetically by first author and numbered sequentially. Only information from the article which concerns the saturation properties of the cryogenic fluids is noted in the bibliography.

The information given for each citation includes the following in the order listed:

1. Author(s)
2. Title (original language, except other than Roman alphabet) and translated title, if original is in a language other than English
3. Reference (if the same article has been published in more than one place, each reference is cited)
4. Cryogenic fluid(s) involved followed by the properties reported and the temperature range covered
5. Form in which data is reported, i.e., tabular, graphical, and equations
6. Original language, if other than English.

4. FORMAT OF PROPERTY INDEX

The primary divisions of the index are the cryogenic fluids. For each fluid the references are indexed by the following phase transitions: 1) solid-solid transition, 2) solid-liquid transition, 3) solid-vapor transition, 4) liquid-vapor transition, and 5) triple point. For helium the liquid-liquid or lambda transition is also included. Each of the phase transitions is further divided by the properties: 1) pressure-temperature data, 2) density (both phases), 3) latent heat of transition, and 4) heat capacity (both phases). Property headings for which no references were found were omitted.

5. PROPERTY INDEX LOCATION FOR THE CRYOGENIC FLUIDS

Page No.

1. Helium	
a. helium-3	6
b. helium-4 (includes articles in which authors did not specify the isotope studied)	7
2. Hydrogen	
a. 20.4°K equilibrium hydrogen (includes parahydrogen)	8
b. normal hydrogen (includes articles in which authors did not specify the ortho-para composition)	9
c. ortho-parahydrogen (other than normal)	9
d. hydrogen deuteride	10
e. deuterium	11
f. hydrogen tritide and deuterium tritide	12
g. tritium	12
3. Neon	13
4. Nitrogen	14
5. Oxygen	15
6. Air	16
7. Carbon Monoxide	17
8. Fluorine	18
9. Argon	19
10. Methane	
a. normal methane	20
b. deuteromethane and other isotopic modifications	21

6. INDEX OF PROPERTIES

HELIUM-3

SOLID-SOLID TRANSITION

PRESSURE-TEMPERATURE DATA
187 217

DENSITY
420

HEAT OF TRANSITION
187

SOLID-LIQUID TRANSITION

MELTING PRESSURE
18 20 43 44 162
217 219 224 358 360
362 396 397 416 421
428 429 489

DENSITY-SOLID
219 360 362 421 462

DENSITY-LIQUID
162 217 219 360 362
428 429 462

HEAT CAPACITY-SOLID
18 225 226 348 416

HEAT CAPACITY-LIQUID
348 416 452

SOLID-VAPOR TRANSITION

VAPOR PRESSURE
507

HEAT CAPACITY-SOLID
163 224

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE
1 395 442 461 463
464

DENSITY-LIQUID
215 297 300 320 405
428 429 465

DENSITY-VAPOR
215 297

HEAT OF VAPORIZATION
3 4

HEAT CAPACITY-LIQUID
2 19 43 68 69
70 139 140 398 399
406 407 416 443 453
454 455

LIQUID-LIQUID TRANSITION

PRESSURE-TEMPERATURE DATA
400

INDEX OF PROPERTIES (CONT.)

HELIUM-4 (OR UNSPECIFIED HELIUM)

REFERENCES NOT INDEXED FOR PHASE
TRANSITION OR PROPERTY

408

SOLID-SOLID TRANSITION

PRESSURE-TEMPERATURE DATA

8 218 483

DENSITY

218 304 363

SOLID-LIQUID TRANSITION

MELTING PRESSURE

8	75	131	158	171
217	218	245	246	269
280	321	322	358	361
396	421	433	434	437
457	458	459	483	

DENSITY-SOLID

158	218	264	270	282
304	360	361	421	437
457	458	459		

DENSITY-LIQUID

75	158	162	217	218
270	282	304	360	361
437	457	458	459	

HEAT OF FUSION

264	270	282	433	437
-----	-----	-----	-----	-----

HEAT CAPACITY-SOLID

158	226	270	282
-----	-----	-----	-----

HEAT CAPACITY-LIQUID

270	282	333
-----	-----	-----

SOLID-VAPOR TRANSITION

VAPOR PRESSURE

319

DENSITY-SOLID

290

HEAT CAPACITY-SOLID

5

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

14	15	16	50	170
292	293	307	330	378
379	380	381	393	418
419	478	499		

DENSITY-LIQUID

21	165	166	298	301
344	379	381		

DENSITY-VAPOR

166	344	379
-----	-----	-----

HEAT OF VAPORIZATION

48	49	133
----	----	-----

HEAT CAPACITY-LIQUID

134	156	179	232	238
250	274	279	281	294
295	313	314	333	334
337	338	497		

LIQUID-LIQUID TRANSITION

PRESSURE-TEMPERATURE DATA

8	135	161	273	281
295	321	332	333	335
419	458			

DENSITY

85	301	332
----	-----	-----

HEAT CAPACITY

279	281	331	333
-----	-----	-----	-----

INDEX OF PROPERTIES (CONT.)

20.4 DEGREE K. EQUILIBRIUM HYDROGEN (INCLUDES PARAHYDROGEN)

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

MELTING PRESSURE
6 118 208DENSITY-SOLID
6 118DENSITY-LIQUID
208HEAT OF FUSION
6 7 103 118 258HEAT CAPACITY-SOLID
7 103

SOLID-VAPOR TRANSITION

VAPOR PRESSURE
439DENSITY-SOLID
276HEAT CAPACITY-SOLID
6 239 258 351

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

31 39 62 205 206
207 243 244 272 410
477 488

DENSITY-LIQUID

31 206 244 309 410
423

DENSITY-VAPOR

31 244 410

HEAT OF VAPORIZATION

258 495

HEAT CAPACITY-LIQUID

258 440 505

TRIPLE POINT

PRESSURE-TEMPERATURE DATA

39 62 103 258

INDEX OF PROPERTIES (CONT.)

NORMAL HYDROGEN (OR UNSPECIFIED HYDROGEN)

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

MELTING PRESSURE

86	283	284	324	358
359	392	435	469	471

DENSITY-SOLID

41

DENSITY-LIQUID

41

HEAT OF FUSION

289 432

HEAT CAPACITY-SOLID

42

SOLID-VAPOR TRANSITION

VAPOR PRESSURE

64	145	202	222	308
----	-----	-----	-----	-----

DENSITY-SOLID

349 350 385

HEAT CAPACITY-SOLID

289 351 432

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

31	32	57	66	76
83	143	144	146	192
202	212	228	229	230
236	272	324	339	364
365	369	370	374	376
382	388	390	391	424
469	477	491	492	

DENSITY-LIQUID

35	143	148	206	309
342	385	423		

DENSITY-VAPOR

342

HEAT OF VAPORIZATION

149	175	268	424	432
-----	-----	-----	-----	-----

HEAT CAPACITY-LIQUID

42	175	289	432
----	-----	-----	-----

TRIPLE POINT

PRESSURE-TEMPERATURE DATA				
57	200	202	228	230
352	390			

ORTHO-PARAHYDROGEN (OTHER THAN NORMAL)

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

NO EXPERIMENTAL DATA

SOLID-VAPOR TRANSITION

HEAT CAPACITY-SOLID				
6	9	240	241	351

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE			
34			

TRIPLE POINT

PRESSURE-TEMPERATURE DATA			
200			

INDEX OF PROPERTIES (CONT.)

HYDROGEN DEUTERIDE

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

NO EXPERIMENTAL DATA

SOLID-VAPOR TRANSITION

VAPOR PRESSURE
422HEAT CAPACITY-SOLID
211

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE
31 243 244 369 370
422

DENSITY-LIQUID

31 244

DENSITY-VAPOR

31 244

TRIPLE POINT

PRESSURE-TEMPERATURE DATA
243 422

INDEX OF PROPERTIES (CONT.)

DEUTERIUM

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

MELTING PRESSURE

86 98 324 358 359

DENSITY-SOLID

41

DENSITY-LIQUID

41

HEAT OF FUSION

97 98 210 299

HEAT CAPACITY-SOLID

42

SOLID-VAPOR TRANSITION

VAPOR PRESSURE

71 72 212 325 326
439

DENSITY-SOLID

310 349 350

HEAT CAPACITY-SOLID

96 97 98 203 204
209 210 239 299

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

31 71 72 194 212
243 244 299 324 325
326 369 370 424

DENSITY-LIQUID

31 98 244 296 309

DENSITY-VAPOR

31 244

HEAT OF VAPORIZATION

98 299 495

HEAT CAPACITY-LIQUID

42 96 97 98 210
299

TRIPLE POINT

PRESSURE-TEMPERATURE DATA

71 72 96 98 210
243 299 325 326

DENSITY

98

INDEX OF PROPERTIES (CONT.)

HYDROGEN TRITIDE OR DEUTERIUM TRITIDE

SOLID-SOLID TRANSITION

NOT APPLICABLE

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE
52 327

SOLID-LIQUID TRANSITION

NO EXPERIMENTAL DATA

TRIPLE POINT

NO EXPERIMENTAL DATA

SOLID-VAPOR TRANSITION

NO EXPERIMENTAL DATA

TRITIUM

SOLID-SOLID TRANSITION

NOT APPLICABLE

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE
212

SOLID-LIQUID TRANSITION

MELTING PRESSURE
359DENSITY-LIQUID
213

TRIPLE POINT

SOLID-VAPOR TRANSITION

VAPOR PRESSURE
212PRESSURE-TEMPERATURE DATA
212

INDEX OF PROPERTIES (CONT.)

NEON

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

MELTING PRESSURE

285 287 358 435

HEAT OF FUSION

94 101

SOLID-VAPOR TRANSITION

VAPOR PRESSURE

53 127 130 214 230
277 278 412 469

DENSITY-SOLID

138

HEAT CAPACITY-SOLID

93 94 101

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

53 59 84 130 214
230 278 378 386 387
412 481

DENSITY-LIQUID

128 343 386

DENSITY-VAPOR

128 343

HEAT CAPACITY-LIQUID

93 94 101

TRIPLE POINT

PRESSURE-TEMPERATURE DATA

53 94 101 214 230
378 386 412 481

INDEX OF PROPERTIES (CONT.)

NITROGEN

SOLID-SOLID TRANSITION

PRESSURE-TEMPERATURE DATA

23	25	92	112
199	414	446	460

175

HEAT OF TRANSITION

92	112	175	199
----	-----	-----	-----

SOLID-LIQUID TRANSITION

MELTING PRESSURE

46	73	74	92	106
175	195	216	286	287
358	403	409	414	435
482				

HEAT CAPACITY-SOLID

73	74	216
----	----	-----

DENSITY-LIQUID

73	74	216
----	----	-----

HEAT OF FUSION

92	112	175	199
----	-----	-----	-----

SOLID-VAPOR TRANSITION

VAPOR PRESSURE

23	25	64	82	155
199	228	271	308	485

DENSITY-SOLID

137	413	479	480
-----	-----	-----	-----

HEAT CAPACITY-SOLID

92	112	175	199
----	-----	-----	-----

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

12	13	22	23	24
25	27	37	56	60
79	81	82	87	110
125	154	183	192	193
199	205	228	229	230
237	247	248	257	271
306	354	389	402	450
485	490	493	501	502
504	506			

DENSITY-LIQUID

38	55	148	157	252
336	347	474	504	

DENSITY-VAPOR

47	147	197	347
----	-----	-----	-----

HEAT OF VAPORIZATION

12	13	132	149	175
195	199	261	426	427

HEAT CAPACITY-LIQUID

12	92	112	175	199
261	288	496		

TRIPLE POINT

PRESSURE-TEMPERATURE DATA

23	25	106	110	112
183	199	228	230	263
271	288	306	482	

INDEX OF PROPERTIES (CONT.)

OXYGEN

SOLID-SOLID TRANSITION

PRESSURE-TEMPERATURE DATA

23	25	65	92	175
201	242	266	394	403
445	447	448	451	

HEAT OF TRANSITION

92	175	201	
----	-----	-----	--

HEAT CAPACITY

65	
----	--

SOLID-LIQUID TRANSITION

MELTING PRESSURE

92	150	175	195	266
287	328	329	358	384
403	414			

HEAT OF FUSION

92	175	201	
----	-----	-----	--

SOLID-VAPOR TRANSITION

VAPOR PRESSURE

23	25	242	
----	----	-----	--

HEAT CAPACITY-SOLID

92	175	201	311	312
----	-----	-----	-----	-----

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

12	13	22	23	24
25	32	33	34	37
51	57	60	76	79
81	82	100	104	111
141	146	151	154	160
164	173	180	190	195
196	202	221	227	229
230	236	237	242	247
248	256	275	291	303
317	364	368	374	383
389	449	451	466	467
470	472	485	490	500
501	502			

DENSITY-LIQUID

30	38	54	55	148
157	169	196	233	252
265	336	345	430	466
467	473	475	504	

DENSITY-VAPOR

47	119	147	345	
----	-----	-----	-----	--

HEAT OF VAPORIZATION

11	12	13	40	104
132	149	172	175	189
195	201	268	417	427

HEAT CAPACITY-LIQUID

12	92	175	201	486
----	----	-----	-----	-----

TRIPLE POINT

PRESSURE-TEMPERATURE DATA

23	25	201	230	242
263	394	451		

INDEX OF PROPERTIES (CONT.)

AIR

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

NO EXPERIMENTAL DATA

SOLID-VAPOR TRANSITION

NO EXPERIMENTAL DATA

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

195 316 355 371 501
503

DENSITY-LIQUID

316 355

DENSITY-VAPOR

119 316 355

HEAT OF VAPORIZATION

45 181 498

HEAT CAPACITY-LIQUID

177

TRIPLE POINT

NO EXPERIMENTAL DATA

INDEX OF PROPERTIES (CONT.)

CARBON MONOXIDE

SOLID-SOLID TRANSITION

PRESSURE-TEMPERATURE DATA			
90	92	175	256

HEAT OF TRANSITION		
90	92	175

SOLID-LIQUID TRANSITION

MELTING PRESSURE				
90	92	107	175	256
414	482			

HEAT OF FUSION		
90	92	175

SOLID-VAPOR TRANSITION

VAPOR PRESSURE				
90	113	129	255	256
482				

DENSITY-SOLID	
480	

HEAT OF SUBLIMATION	
90	

HEAT CAPACITY-SOLID		
90	92	175

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE				
38	79	81	90	113
129	141	174	220	237
255	256	357	377	425
482	501	502	506	

DENSITY-LIQUID				
38	80	81	340	341

DENSITY-VAPOR			
80	81	340	341

HEAT OF VAPORIZATION	
90	175

HEAT CAPACITY-LIQUID		
90	92	175

TRIPLE POINT

PRESSURE-TEMPERATURE DATA				
95	107	129	174	482

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FLUORINE

SOLID-SOLID TRANSITION

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SOLID-LIQUID TRANSITION

HEAT OF FUSION
249 266

SOLID-VAPOR TRANSITION

VAPOR PRESSURE
26

HEAT CAPACITY-SOLID
249 266

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE
26 77 89 167 249

DENSITY-LIQUID
157 159 167 168 253
254 265 305 366 494

HEAT OF VAPORIZATION
249

HEAT CAPACITY-LIQUID
249 266

TRIPLE POINT

NO EXPERIMENTAL DATA

INDEX OF PROPERTIES (CONT.)

ARGON

SOLID-SOLID TRANSITION

NOT APPLICABLE

SOLID-LIQUID TRANSITION

MELTING PRESSURE

10	73	74	114	318
353	367	373	375	404
409	435			

DENSITY-SOLID

73	74	318
----	----	-----

DENSITY-LIQUID

73	74	318
----	----	-----

HEAT OF FUSION

94	175	177	185	186
----	-----	-----	-----	-----

SOLID-VAPOR TRANSITION

VAPOR PRESSURE

61	63	88	123	124
185	186	190	223	

DENSITY-SOLID

136	152	153	431	438
441				

HEAT CAPACITY-SOLID

17	94	175	182	185
186	505			

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

59	60	63	67	88
102	111	120	123	151
185	190	223	248	323
368	373	375	404	411
415	476	490		

DENSITY-LIQUID

38	55	121	323	346
375	404	474		

DENSITY-VAPOR

47	121	323	346
----	-----	-----	-----

HEAT OF VAPORIZATION

126	175	185	186	189
-----	-----	-----	-----	-----

HEAT CAPACITY-LIQUID

36	94	175	177	185
259	260	487		

HEAT CAPACITY-VAPOR

260

TRIPLE POINT

PRESSURE-TEMPERATURE DATA

61	94	95	111	123
185	190	248	353	356
401				

DENSITY

114

INDEX OF PROPERTIES (CONT.)

METHANE

SOLID-SOLID TRANSITION

PRESSURE-TEMPERATURE DATA

92	105	109	115	116
188	198	315	444	447
468				

HEAT OF TRANSITION

92	105	109	188	315
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SOLID-LIQUID TRANSITION

MELTING PRESSURE

92	114	191	256	456
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HEAT OF FUSION

92	109	116	178	
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SOLID-VAPOR TRANSITION

VAPOR PRESSURE

29	184	191	231	251
256	267	372		

DENSITY-SOLID

235	336			
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HEAT CAPACITY-SOLID

92	105	109	115	116
178	188			

LIQUID-VAPOR TRANSITION

VAPOR PRESSURE

29	56	78	79	81
99	141	142	176	189
231	234	251	256	302
317	372	449	476	484

DENSITY-LIQUID

56	78	80	81	302
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DENSITY-VAPOR

47	56	78	80	81
----	----	----	----	----

HEAT OF VAPORIZATION

117	188	189	234	261
417				

HEAT CAPACITY-LIQUID

92	116	178	234	261
496				

TRIPLE POINT

PRESSURE-TEMPERATURE DATA

28	29	109	114	116
122	191	315		

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- 47 BENNEWITZ, K. AND ANDREEWA, N.
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 JOULE-EFFEKTES.
 (INVESTIGATIONS IN THE CRITICAL REGION. III. ENERGY MEASUREMENT BY MEANS
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 Z. PHYSIK. CHEM. LEIPZIG VOL. 142A, 37-66 (1929)
 OXYGEN, CRITICAL TEMPERATURE AND DENSITY.
 NITROGEN, CRITICAL TEMPERATURE AND DENSITY.
 METHANE, CRITICAL TEMPERATURE AND DENSITY.
 ARGON, CRITICAL TEMPERATURE AND DENSITY.
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- 48 BERMAN, R. AND MATE, C. F.
 SOME THERMAL PROPERTIES OF HELIUM AND THEIR RELATION TO THE TEMPERATURE
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 PHIL. MAG. VOL. 3, 461-9 (1958)
 HELIUM, HEAT OF VAPORIZATION (2.2 TO 5.2 DEGREES K.) AND CALCULATED
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- 49 BERMAN, R. AND POULTER, J.
ON THE LATENT HEAT AND VAPOUR DENSITY OF HELIUM.
PHIL. MAG. VOL. 43, 1047-54 (1952)
- HELIUM, HEAT OF VAPORIZATION (2.9 TO 4.5 DEGREES K.) AND CALCULATED VALUES
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- 50 BERMAN, R. AND SWENSON, C. A.
ABSOLUTE TEMPERATURE SCALE BETWEEN 4.2 DEGREES AND 5.2 DEGREES K.
PHYS. REV. VOL. 95, 311-14 (1954)
- HELIUM, VAPOR PRESSURE-LIQUID (4.2 TO 5.2 DEGREES K.).
EQUATION ONLY
- 51 BESTELMEYER, A.
UBER SIEDENDEN SAUERSTOFF.
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ANN. PHYSIK VOL. 14, 87-98 (1904)
- OXYGEN, VAPOR PRESSURE-LIQUID (82 TO 90 DEGREES K.).
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- 52 BIGELEISEN, J. AND KERR, E. C.
VAPOR PRESSURE OF HT.
J. CHEM. PHYS. VOL. 23, 2442-3 (1955)
- HYDROGEN TRITIDE, VAPOR PRESSURE-LIQUID (20 DEGREES K.) DATA IS REPORTED
AS THE RATIO OF HYDROGEN VAPOR PRESSURE TO HYDROGEN TRITIDE.
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- 53 BIGELEISEN, J. AND ROTH, E.
VAPOR PRESSURES OF THE NEON ISOTOPES.
J. CHEM. PHYS. VOL. 35, 68-77 (1961)
- NEON (NORMALLY OCCURRING AND ISOTOPES 20 AND 22), VAPOR PRESSURE-SOLID
(16 TO 24 DEGREES K.) AND LIQUID (24 TO 30 DEGREES K.), TRIPLE POINT.
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- 54 BILTZ, W., FISCHER, W. AND WUNNENBERG, E.
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KRISTALLISIERTEN STICKSTOFFOXIDE.
(CONCERNING MOLECULAR AND ATOMIC VOLUMES. 30. THE LOW TEMPERATURE
VOLUME OF CRYSTALLINE NITROGEN-OXIDES.)
Z. ANORG. U. ALLGEM. CHEM. VOL. 193, 351-66 (1930)
- OXYGEN, DENSITY-LIQUID (78 DEGREES K.)
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- 55 BLAGOI, YU. P. AND RUDENKO, N. S.
 DENSITY OF LIQUIFIED GAS SOLUTIONS NITROGEN-OXYGEN AND ARGON-OXYGEN.
 IZVEST. VYSSHIKH UCHEB. ZAVEDENII. FIZ. NO. 6, 145-51 (1958)
- NITROGEN, DENSITY-LIQUID (65 TO 80 DEGREES K.).
 OXYGEN, DENSITY-LIQUID (65 TO 90 DEGREES K.).
 ARGON, DENSITY-LIQUID (84 TO 90 DEGREES K.).
 END POINT VALUES ARE GIVEN FOR CONCENTRATIONS OF EACH MIXTURE.
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- 56 BLOOMER, O. T. AND PARENT, J. D.
 PHYSICAL-CHEMICAL PROPERTIES OF METHANE-NITROGEN MIXTURES.
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- METHANE (WITH 0.03 PER CENT NITROGEN), VAPOR PRESSURE-LIQUID (105 TO 190 DEGREES K.), DENSITY-LIQUID (124 TO 190 DEGREES K.) AND VAPOR (124 TO 190 DEGREES K.), CRITICAL PRESSURE, TEMPERATURE AND DENSITY.
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- 57 BLUE, R. W. AND HICKS, J. F. G.
 COMPARISON OF PLATINUM-RHODIUM RESISTANCE THERMOMETERS WITH THE HELIUM GAS THERMOMETER FROM 11 TO 300 DEGREES K. AN IMPROVED CRYOSTAT.
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- HYDROGEN (NORMAL), NORMAL BOILING POINT, TRIPLE POINT.
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- 58 BOATO, G., CASANOVA, G., SCOLES, G., AND VALLAURI, M. E.
 VAPOUR PRESSURE OF ISOTOPIC LIQUIDS. III. SOME CORRECTIONS TO PREVIOUS PAPERS.
 NUOVO CIMENTO VOL. 20, 87-93 (1961)
- CORRECTIONS FOR ARGON AND NEON VAPOR PRESSURE DATA IN NUMBER 59 AND NUMBER 60 BELOW.
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- 59 BOATO, G., CASANOVA, G., AND VALLAURI, M. E.
 VAPOUR PRESSURE OF ISOTOPIC LIQUIDS. II. NEON AND ARGON ABOVE BOILING-POINT.
 NUOVO CIMENTO VOL. 16, 505-19 (1960)
- ARGON. VAPOR PRESSURE-LIQUID (88 TO 119 DEGREES K.), DATA IS THE LOG OF THE RATIO OF VAPOR PRESSURES OF ISOTOPES 36 AND 40.
 NEON, VAPOR PRESSURE-LIQUID (25 TO 39 DEGREES K.), DATA IS THE LOG OF THE RATIO OF VAPOR PRESSURES OF ISOTOPES 20 AND 22.
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- 60 BOATO, G., SCOLES, G., AND VALLAURI, M. E.
 VAPOUR PRESSURE OF ISOTOPIC LIQUIDS I. -ARGON, NITROGEN, OXYGEN, BELOW
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 THE RATIO OF VAPOR PRESSURES OF ISOTOPES 36 AND 40.
 NITROGEN, VAPOR PRESSURE-LIQUID (71 TO 77 DEGREES K.), DATA IS THE LOG OF
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 THE RATIO OF VAPOR PRESSURES OF ISOTOPES 16 AND 16-18.
 THE DATA WERE MEASURED BY SPECTROGRAPHIC ANALYSIS OF EQUILIBRIUM MIXTURES
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 TABLE, GRAPH, EQUATION

- 61 BOATO, G., SCOLES, G., AND VALLAURI, M. E.
 VAPOUR PRESSURE OF ISOTOPIC SOLIDS BY A STEADY FLOW METHOD. ARGON BETWEEN
 72 DEGREES K AND TRIPLE POINT.
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ARGON, VAPOR PRESSURE-SOLID (72 TO 84 DEGREES K.), TRIPLE POINT. THIS WAS
 A VARIABLE MIXTURE OF ISOTOPES 36 AND 40.
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- 62 BONHOEFFER, K. F. AND HARTECK, P.
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 (FURTHER EXPERIMENTS ON PARAHYDROGEN.)
 NATURWISSENSCHAFTEN VOL. 17, 321-22 (1929)

PARAHYDROGEN, VAPOR PRESSURE-LIQUID (20.26 AND 20.39 DEGREES K.), TRIPLE
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- 63 BORN, F.
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 (VAPOR PRESSURE MEASUREMENTS ON PURE ARGON.)
 ANN. PHYSIK VOL. 69, 473-504 (1922)

ARGON, VAPOR PRESSURE-SOLID (66 TO 84 DEGREES K.) AND LIQUID (84 TO 90
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- 64 BOROVIK, E. S., GRISHIN, S. F. AND GRISHINA, E. YA.
 THE VAPOR PRESSURE OF NITROGEN AND HYDROGEN AT LOW PRESSURES.
 SOVIET PHYS. TECH. PHYS. VOL. 5, 506-11 (1960)
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HYDROGEN, VAPOR PRESSURE-SOLID (3.4 TO 4.5 DEGREES K.), CALCULATED VALUE
 OF HEAT OF SUBLIMATION AT APPROXIMATELY 4.2 DEGREES K.
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65 BOROVICK-ROMANOV, A. S., ORLOVA, M. P. AND STRELKOV, P. G.
THE MAGNETIC AND THERMAL PROPERTIES OF THREE MODIFICATIONS OF SOLID
OXYGEN.
DOKLADY AKAD. NAUK S.S.S.R. VOL. 99, 699-702 (1954)

OXYGEN, HEAT CAPACITY-SOLID ALPHA (23 TO 24 DEGREES K.), SOLID-SOLID
TRANSITION (ALPHA-BETA) IS SHOWN BY A SHARP DISCONTINUITY IN HEAT
CAPACITY VS TEMPERATURE CURVE.
GRAPHICAL DATA ONLY
RUSSIAN

66 BOROVICK-ROMANOV, A. S., AND STRELKOV, P. G.
A NEW TYPE OF GAS THERMOMETER AND A DETERMINATION OF THE BOILING POINT OF
HYDROGEN.
AKAD. NAUK. S.S.S.R. DOKLADY VOL. 83, 59-61 (1952)

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67 BOURBO, P. AND ISCHKIN, I.
UNTERSUCHUNGEN UBER DAS GLEICHGEWICHT VON FLUSSIGKEIT UND DAMPF DES
SYSTEMS ARGON-SAUERSTOFF.
(VAPOR-LIQUID EQUILIBRIUM IN THE SYSTEM ARGON-OXYGEN.)
PHYSICA VOL. 3, 1067-80 (1936)

ARGON, VAPOR PRESSURE-LIQUID (87 TO 95 DEGREES K.).
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68 BREWER, D. F., DAUNT, J. G. AND SREEDHAR, A. K.
LOW TEMPERATURE SPECIFIC HEAT OF LIQUID HELIUM-3 NEAR THE SATURATED
VAPOR PRESSURE AND AT HIGHER PRESSURES.
PHYS. REV. VOL. 115, NO. 4, 836-42 (1959)

HELIUM-3, HEAT CAPACITY-LIQUID (0.1 TO 0.75 DEGREES K.).
TABLE, GRAPH

69 BREWER, D. F. AND KEYSTON, J. R. G.
SPECIFIC HEAT AND EXPANSION COEFFICIENT OF LIQUID HELIUM-3 UNDER PRESSURE
BELOW 0.1 DEGREE K.
NATURE VOL. 191, 1261-3 (1961)

HELIUM-3, HEAT CAPACITY-LIQUID (0.04 TO 0.3 DEGREES K.).
GRAPHICAL DATA ONLY

70 BREWER, D. F., SREEDHAR, A. K., KRAMERS, H. C. AND DAUNT, J. G.
SPECIFIC HEAT OF HELIUM-3 BELOW 1 DEGREE K.
PHYS. REV. VOL. 110, 282-4 (1958)

HELIUM-3, HEAT CAPACITY-LIQUID (0.1 TO 1.0 DEGREES K.).
GRAPHICAL DATA ONLY

- 71 BRICKWEDDE, F. G., SCOTT, R. B. AND TAYLOR, H. S.
 THE DIFFERENCE IN VAPOR PRESSURES OF ORTHO AND PARA DEUTERIUM.
J. CHEM. PHYS. VOL. 3, 653-660 (1935)
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- DEUTERIUM, VAPOR PRESSURE-SOLID (15 TO 18 DEGREES K.) AND LIQUID (18 TO 20 DEGREES K.) THE MEASUREMENTS INCLUDE NORMAL DEUTERIUM, THE DIFFERENCE BETWEEN NORMAL AND 20.4 DEGREES K. EQUILIBRIUM AND THE DIFFERENCE BETWEEN ORTHO AND PARA. EQUATIONS ARE PRESENTED WHICH FIT THE DATA FOR NORMAL AND EQUILIBRIUM DEUTERIUM (SOLID AND LIQUID) AND THESE EQUATIONS ARE USED TO CALCULATE THE TRIPLE POINT. DIFFERENCES BETWEEN NORMAL AND EQUILIBRIUM AND BETWEEN ORTHO AND PARA HEATS OF SUBLIMATION AND VAPORIZATION ARE CALCULATED.
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- 72 BRICKWEDDE, F. G., SCOTT, R. B., UREY, H. C. AND WAHL, M. H.
 THE VAPOR PRESSURE OF DEUTERIUM.
PHYS. REV. VOL. 45, 565 (1934)
- DEUTERIUM, VAPOR PRESSURE-SOLID (14 DEGREES K.) AND LIQUID (20 DEGREES K.), TRIPLE POINT.
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- 73 BRIDGMAN, P. W.
 THE MELTING PARAMETERS OF NITROGEN AND ARGON UNDER PRESSURE, AND THE NATURE OF THE MELTING CURVE.
PHYS. REV. VOL. 46, 930-33 (1934)
- NITROGEN, MELTING PRESSURE (63 TO 149 DEGREES K.), CHANGE IN VOLUME ON MELTING (63 TO 149 DEGREES K.).
 ARGON, MELTING PRESSURE (84 TO 193 DEGREES K.), CHANGE IN VOLUME ON MELTING (84 TO 193 DEGREES K.).
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- 74 BRIDGMAN, P. W.
 THE MELTING CURVES AND COMPRESSIBILITIES OF NITROGEN AND ARGON.
PROC. AM. ACAD. ARTS SCI. VOL. 70, 1-32 (1936)
- NITROGEN, MELTING PRESSURE (63 TO 149 DEGREES K.), CHANGE IN VOLUME ON MELTING (63 TO 149 DEGREES K.), CALCULATED VALUES OF HEAT OF FUSION (63 TO 149 DEGREES K.).
 ARGON, MELTING PRESSURE (84 TO 193 DEGREES K.), CHANGE IN VOLUME ON MELTING (84 TO 193 DEGREES K.), CALCULATED VALUES OF HEAT OF FUSION (84 TO 193 DEGREES K.).
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- 75 BUCHMANN, E.
 HELIUMISOTHERMEN BEI TIEFEN TEMPERATUREN UND HOHEN DRUCKEN.
 (HELIUM ISOTHERMS AT LOW TEMPERATURES AND HIGH PRESSURES.)
Z. PHYSIK. CHEM. VOL. 163A, 461-8 (1933)
- HELIIUM, MELTING PRESSURE (13 TO 20 DEGREES K.), DENSITY-FLUID (13 TO 20 DEGREES K.).
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76 BULLE, F.

UBER DIE DAMPFDRUCKKURVE DES SAUERSTOFFS UND UBER EINE BESTIMMUNG DER KRITISCHEN DATEN VON WASSERSTOFF.
 (VAPOR PRESSURE CURVE OF OXYGEN AND A DETERMINATION OF THE CRITICAL DATA FOR HYDROGEN.)
 PHYSIK. Z. VOL. 14, 860-2 (1913)

OXYGEN, VAPOR PRESSURE-LIQUID (92 TO 136 DEGREES K.).
 HYDROGEN, VAPOR PRESSURE-LIQUID (20 TO 32 DEGREES K.), CALCULATED VALUES OF CRITICAL PRESSURE AND TEMPERATURE.
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77 CADY, G. H. AND HILDEBRAND, J. H.

THE VAPOR PRESSURE AND CRITICAL TEMPERATURE OF FLUORINE.
 J. AM. CHEM. SOC. VOL. 52, 3839-43 (1930)

FLUORINE, VAPOR PRESSURE-LIQUID (73 TO 86 DEGREES K.), CALCULATED VALUES OF NORMAL BOILING POINT, CRITICAL PRESSURE AND TEMPERATURE, AND HEAT OF VAPORIZATION AT NBP.
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78 CARDOSO, E.

DETERMINATION DES ELEMENTS CRITIQUES DU METHANE.
 (DETERMINATION OF THE CRITICAL CONSTANTS OF METHANE.)
 ARCH. SCI. PHYS. ET NAT. VOL. 36, 97-100 (1913)

METHANE, CRITICAL PRESSURE, DENSITY AND TEMPERATURE.
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79 CARDOSO, E.

DETERMINATION EXPERIMENTALE DES CRITIQUE DE L'OXYGENE, DE L'AZOTE,
 DE L'OXYDE DE CARBONE, ET DU METHANE.
 (EXPERIMENTAL DETERMINATION OF THE CRITICAL CONSTANTS OF OXYGEN,
 NITROGEN, CARBON MONOXIDE, AND METHANE.)
 ARCH. SCI. PHYS. ET NAT. VOL. 39, 400-2 (1915)

NITROGEN, CRITICAL PRESSURE AND TEMPERATURE.
 OXYGEN, CRITICAL PRESSURE AND TEMPERATURE.
 METHANE, CRITICAL PRESSURE AND TEMPERATURE.
 CARBON MONOXIDE, CRITICAL PRESSURE AND TEMPERATURE.
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80 CARDOSO, E.

DENSITES DES PHASES COEXISTANTES DU METHANE ET DE L'OXYDE DE CARBONE.
 (DENSITY OF THE COEXISTENT PHASES OF METHANE AND OF CARBON MONOXIDE.)
 ARCH. SCI. PHYS. ET NAT. VOL. 39, 403-4 (1915)

METHANE, CRITICAL DENSITY.
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- 81 CARDOSO, E.
 CONTRIBUTION A L'ETUDE DU POINT CRITIQUE DE QUELQUES GAZ DIFFICILEMENT LIQUEFIABLES. AZOTE, OXYDE DE CARBONE, OXYGENE, METHANE.
 (A CONTRIBUTION TO THE STUDY OF THE CRITICAL POINT OF SOME DIFFICULT GASES TO LIQUEFY -NITROGEN, CARBON MONOXIDE, OXYGEN, METHANE.)
J. CHIM. PHYS. VOL. 13, 312-50 (1916)
- NITROGEN, CRITICAL PRESSURE AND TEMPERATURE.
 OXYGEN, CRITICAL PRESSURE AND TEMPERATURE.
 METHANE, DENSITY-LIQUID AND VAPOR (166 TO 189 DEGREES K.), CRITICAL PRESSURE AND TEMPERATURE, EXTRAPOLATED VALUE OF CRITICAL DENSITY.
 CARBON MONOXIDE, DENSITY-LIQUID AND VAPOR (123 TO 133 DEGREES K.), CRITICAL PRESSURE AND TEMPERATURE, EXTRAPOLATED VALUE OF CRITICAL DENSITY TABLE, GRAPH, EQUATION
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- 82 CATH, P. G.
 ON THE MEASUREMENT OF VERY LOW TEMPERATURES. VAPOUR-PRESSESSES OF OXYGEN AND NITROGEN FOR OBTAINING FIXED POINTS ON THE TEMPERATURE SCALE BELOW 0 DEGREES C.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 152D (1918)
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 TRANSLATION FROM VERSLAG GEWONE VER. WISEN. NATUURK AFDEL KON. AKAD. WETENSCHAP. AMSTERDAM VOL. 27, 553-60 (1918)
- NITROGEN, VAPOR PRESSURE-SOLID (58 TO 60 DEGREES K.) AND LIQUID (64 TO 84 DEGREES K.), EQUATION FOR SOLID AND LIQUID VAPOR PRESSURE, CALCULATED VALUES OF TRIPLE POINT AND NORMAL BOILING POINT.
 OXYGEN, VAPOR PRESSURE-LIQUID (62 TO 90 DEGREES K.), EQUATION FOR LIQUID VAPOR PRESSURE, CALCULATED VALUE OF NORMAL BOILING POINT.
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- 83 CATH, P. G. AND ONNES, H. K.
 ON THE MEASUREMENT OF LOW TEMPERATURES. XXVII. VAPOUR-PRESSESSES OF HYDROGEN IN THE NEIGHBOURHOOD OF THE BOILING POINT AND BETWEEN THE BOILING POINT AND THE CRITICAL TEMPERATURE.
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- HYDROGEN, VAPOR PRESSURE-LIQUID (14 TO 33 DEGREES K.), NORMAL BOILING POINT, EQUATION FOR LIQUID VAPOR PRESSURE.
 TABLE, EQUATION
- 84 CATH, P. G. AND ONNES, H. K.
 ISOTHERMALS OF MONATOMIC SUBSTANCES AND THEIR BINARY MIXTURES. XIX. VAPOUR-PRESSESSES OF NEON BETWEEN THE BOILING POINT AND THE CRITICAL POINT.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 152B (1918)
 TRANSLATION FROM KONINKL. NED. AKAD. WETENSCHAP. PROC. VOL. 20, 1160-2 (1918)
- NEON, VAPOR PRESSURE-LIQUID (24 TO 44 DEGREES K.), EQUATION FOR LIQUID VAPOR PRESSURE.
 TABLE, GRAPH, EQUATION

- 85 CHASE, C. E., MAXWELL, E. AND MILLETT, W. E.
THE DIELECTRIC CONSTANT OF LIQUID HELIUM.
PHYSICA VOL. 27, 1129-45 (1961)

HELUM, DENSITY-LIQUID (TEMPERATURE VARIES + OR - 0.03 DEGREES K. FROM LAMBDA TEMPERATURE). THE ARTICLE INCLUDES ONE GRAPH CONTAINING THE DIFFERENCE BETWEEN MEASURED DENSITY AND LAMBDA DENSITY PLOTTED AGAINST THE SAME DIFFERENCE IN TEMPERATURE, THE DENSITY WAS CALCULATED BY MEANS OF THE CLAUSIUS-MOSSOTTI RELATION.

GRAPHICAL DATA ONLY

- 86 CHESTER, P. F. AND DUGDALE, J. S.
MELTING CURVES OF DEUTERIUM AND HYDROGEN.
PHYS. REV. VOL. 95, 278-9 (1954)

HYDROGEN, MELTING PRESSURE (14 TO 60 DEGREES K.).
DEUTERIUM, MELTING PRESSURE (18 TO 60 DEGREES K.).
GRAPHICAL DATA ONLY

- 87 CINES, M. R., ROACH, J. T., HOGAN, R. J., AND ROLAND, C. H.
NITROGEN-METHANE VAPOR-LIQUID EQUILIBRIA.
CHEM. ENG. PROGR. SYMPOSIUM SER. NO. 6, VOL. 49, 1-10 (1953)
NITROGEN, VAPOR PRESSURE-LIQUID (100 TO 125 DEGREES K.).
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- 88 CLARK, A. M., DIN, F., ROBB, J., MICHELS, A., WASSENAAR, T. AND
ZWIETERING, TH.
THE VAPOUR PRESSURE OF ARGON.
PHYSICA VOL. 17, 876-884 (1951)

ARGON, VAPOR PRESSURE-SOLID (70 TO 84 DEGREES K.) AND LIQUID (84 TO 150 DEGREES K.), EQUATION FOR SOLID AND LIQUID VAPOR PRESSURE, CALCULATED VALUES OF TRIPLE POINT AND NORMAL BOILING POINT.
TABLE, GRAPH, EQUATION

- 89 CLAUSSSEN, W. H.
THE VAPOR PRESSURE OF FLUORINE.
J. AM. CHEM. SOC. VOL. 56, 614-15 (1934)

FLUORINE, VAPOR PRESSURE-LIQUID (PRESSURE RANGE 6.3 TO 75.2 CM.),
CALCULATED VALUES OF NORMAL BOILING POINT AND HEAT OF VAPORIZATION AT THE NBP.
EQUATION ONLY

- 90 CLAYTON, J. O. AND GIAUQUE, W. F.
 THE HEAT CAPACITY AND ENTROPY OF CARBON MONOXIDE. HEAT OF VAPORIZATION.
 VAPOR PRESSURES OF SOLID AND LIQUID. FREE ENERGY TO 5000 DEGREES K FROM
 SPECTROSCOPIC DATA.
J. AM. CHEM. SOC. VOL. 54, 2610-26 (1932)
- CARBON MONOXIDE, HEAT CAPACITY-SOLID I (14 TO 59 DEGREES K.), SOLID II
 (63 TO 66 DEGREES K.) AND LIQUID (70 TO 85 DEGREES K.), HEAT OF FUSION,
 HEAT OF SUBLIMATION, HEAT OF VAPORIZATION, HEAT OF TRANSITION (SOLID I TO
 SOLID II), VAPOR PRESSURE-SOLID I (60 TO 62 DEGREES K.), SOLID II (62 TO
 68 DEGREES K.) AND LIQUID (68 TO 83 DEGREES K.), EQUATION FOR SOLID AND
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 BOILING POINT. SEE NUMBER 91 BELOW FOR CORRECTION.
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- 91 CLAYTON, J. O. AND GIAUQUE, W. F.
 THE HEAT CAPACITY AND ENTROPY OF CARBON MONOXIDE. HEAT OF VAPORIZATION.
 VAPOR PRESSURE OF SOLID AND LIQUID. FREE ENERGY TO 5000 DEGREES K FROM
 SPECTROSCOPIC DATA.
J. AM. CHEM. SOC. VOL. 55, 5071-3 (1933)

CORRECTION FOR NUMBER 90 ABOVE. CORRECTION DOES NOT INVOLVE ANY
 EXPERIMENTAL SATURATION PROPERTIES.

- 92 CLUSIUS, K.
 UBER DIE SPEZIFISCHE WARME EINIGER KONDENSIERTER GASE ZWISCHEN 10 GRAD
 ABS. UND IHREM TRIPLEPUNKT.
 (CONCERNING THE SPECIFIC HEAT OF CONDENSED GASES BETWEEN 10 DEGREES
 ABSOLUTE AND THEIR TRIPLE POINTS.)
Z. PHYSIK. CHEM. (LEIPZIG) VOL. B3, 41-79 (1929)
- NITROGEN, HEAT CAPACITY-SOLID II (10 TO 34 DEGREES K.), SOLID I (38 TO 61
 DEGREES K.) AND LIQUID (67 TO 73 DEGREES K.), HEAT OF FUSION (62 TO 66
 DEGREES K.), HEAT OF TRANSITION (SOLID I TO SOLID II 35 TO 38 DEGREES K.)
 SOLID-SOLID TRANSITION POINT, MELTING POINT.
 OXYGEN, HEAT CAPACITY-SOLID III (10 TO 23 DEGREES K.), SOLID II (25 TO 41
 DEGREES K.), SOLID I (45 TO 53 DEGREES K.) AND LIQUID (57 TO 73 DEGREES
 K.), HEAT OF FUSION (53 TO 57 DEGREES K.), HEATS OF TRANSITION (SOLID II
 TO SOLID III 23 TO 26 DEGREES K.) (SOLID I TO SOLID II 42 TO 48 DEGREES
 K.), SOLID-SOLID TRANSITION POINTS, MELTING POINT.
 METHANE, HEAT CAPACITY-SOLID II (10 TO 20 DEGREES K.), SOLID I (21 TO 87
 DEGREES K.), LIQUID (95 TO 105 DEGREES K.), HEAT OF FUSION (88 TO 95
 DEGREES K.), HEAT OF TRANSITION (SOLID I TO SOLID II 17 TO 21 DEGREES K.)
 SOLID-SOLID TRANSITION POINT, MELTING POINT.
 CARBON MONOXIDE, HEAT CAPACITY-SOLID II (12 TO 57 DEGREES K.), SOLID I
 (63 TO 66 DEGREES K.) AND LIQUID (70 TO 81 DEGREES K.), HEAT OF FUSION
 (67 TO 73 DEGREES K.), HEAT OF TRANSITION (SOLID I TO SOLID II 58 TO 63
 DEGREES K.), SOLID-SOLID TRANSITION POINT, MELTING POINT.
 TABLE, GRAPH
 GERMAN

- 93 CLUSIUS, K.
 DIE DAMPFDRUCKKONSTANTE DES NEONS.
 (THE VAPOR PRESSURE CONSTANT OF NEON.)
Z. PHYSIK. CHEM. (LEIPZIG) VOL. B4, 1-13 (1929)

NEON, HEAT CAPACITY-SOLID (11 TO 24 DEGREES K.) AND LIQUID (28 TO 44
 DEGREES K.), CALCULATED VALUES OF HEAT OF VAPORIZATION (AT 0 DEGREES K.)
 AND VAPOR PRESSURE CONSTANT.
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 GERMAN

- 94 CLUSIUS, K.
 ATOMWARMEN UND SCHMELZWARMEN VON NEON, ARGON, UND KRYPTON.
 (ATOMIC HEAT AND HEAT OF FUSION OF NEON, ARGON, AND KRYPTON.)
Z. PHYSIK. CHEM. (LEIPZIG) VOL. B31, 459-74 (1936)
- NEON, HEAT CAPACITY-SOLID (12 TO 23 DEGREES K.) AND LIQUID (26 TO 27 DEGREES K.), HEAT OF FUSION (24 TO 25 DEGREES K.), TRIPLE POINT.
 ARGON, HEAT CAPACITY-SOLID (10 TO 80 DEGREES K.) AND LIQUID (86 TO 89 DEGREES K.), HEAT OF FUSION (82 TO 85 DEGREES K.), TRIPLE POINT.
- TABLE
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- 95 CLUSIUS, K.
 WIRD DIE SCHMELZSCHARFE DURCH DIE ISOTOPEN BEEINFLUSST. DIE TRIPelpunktsdrucke DER GASE CO, A, N₂O, HCl AND HBr.
 (IS THE SHARPNESS OF THE MELTING POINT INFLUENCED BY THE ISOTOPES. THE TRIPLE POINT PRESSURES OF THE GASES CARBON MONOXIDE, ARGON, NITROUS OXIDE, HYDROGEN CHLORIDE AND HYDROGEN BROMIDE.)
Z. PHYSIK. CHEM. (LEIPZIG) VOL. B49, 12 (1941)
- ARGON, TRIPLE POINT PRESSURE.
 CARBON MONOXIDE, TRIPLE POINT PRESSURE.
- TABLE
 GERMAN
- 96 CLUSIUS, K. AND BARTHOLOME, E.
 DIE EIGENSCHAFTEN DES KONDENSIERTEN SCHWEREN WASSERSTOFFS.
 (THE PROPERTIES OF CONDENSED HEAVY HYDROGEN.)
Z. TECH. PHYSIK VOL. 15, 545-7 (1934)
- DEUTERIUM, HEAT CAPACITY-SOLID (10 TO 18 DEGREES K.) AND LIQUID (19 TO 22 DEGREES K.), HEAT OF FUSION, MELTING TEMPERATURE, TRIPLE POINT PRESSURE, CALCULATED VALUE FOR LIQUID DENSITY AT THE TRIPLE POINT.
- TABLE, GRAPH
 GERMAN
- 97 CLUSIUS, K., AND BARTHOLOME, E.
 DIE SPEZIFISCHE WARME UND SCHMELZWARME DES KONDENSierten DIWASSERSTOFFS.
 (THE SPECIFIC HEAT AND HEAT OF FUSION OF CONDENSED DEUTERIUM.)
NACHR. GES. WISS. GOTTINGEN VOL. 1, NO. 4, 29-39 (1934)
- DEUTERIUM, HEAT CAPACITY-SOLID (10 TO 18 DEGREES K.) AND LIQUID (19 TO 22 DEGREES K.), HEAT OF FUSION (18 TO 19 DEGREES K.).
- TABLE, GRAPH
 GERMAN
- 98 CLUSIUS, K. AND BARTHOLOME, E.
 CALORISCHE UND THERMISCHE EIGENSCHAFTEN DES KONDENSIERTEN SCHWEREN WASSERSTOFFS.
 (CALORIMETRIC AND THERMAL PROPERTIES OF CONDENSED HEAVY HYDROGEN.)
Z. PHYSIK. CHEM. VOL. B30, 237-57 (1935)
- DEUTERIUM, HEAT CAPACITY-SOLID (10 TO 18 DEGREES K.) AND LIQUID (19 TO 22 DEGREES K.), HEAT OF FUSION (18 TO 19 DEGREES K.), HEAT OF VAPORIZATION (19.6 DEGREES K.), MELTING PRESSURE (18 TO 21 DEGREES K.), DENSITY-LIQUID (18 TO 21 DEGREES K.), TRIPLE POINT, EQUATIONS FOR MELTING CURVE AND LIQUID DENSITY, CALCULATION OF HEAT OF SUBLIMATION AT 0 DEGREES K. AND OF THE DENSITY OF THE SOLID AND LIQUID AT THE TRIPLE POINT.
- TABLE, GRAPH, EQUATION
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- 99 CLUSIUS, K., ENDTINGER, F., AND SCHLEICH, K.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XXX. DIE DAMPFDRUCKDIFFERENZ VON
 $^{12}\text{-CH}_4$ UND $^{13}\text{-CH}_4$ ZWISCHEN SCHMELZ-UND SIEDEPUNKT.
 (RESULTS OF LOW TEMPERATURE RESEARCH. XXX. THE VAPOR PRESSURE DIFFERENCE
 OF CARBON 12 AND 13 METHANES BETWEEN MELTING AND BOILING POINTS.)
 HELV. CHIM. ACTA VOL. 43, 1267-74 (1960)
 METHANE, VAPOR PRESSURE-LIQUID (91 TO 110 DEGREES K.) THE DATA ARE
 PRESENTED AS AN EQUATION WHICH GIVES THE RATIO OF THE VAPOR PRESSURES OF
 METHANE WITH CARBON 12 AND METHANE WITH CARBON 13, CALCULATED VALUES OF
 TRIPLE POINT AND NORMAL BOILING POINT.
 TABLE, EQUATION
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- 100 CLUSIUS, K., ENDTINGER, F. AND SCHLEICH, K.
 13. ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XXXIII. DIE
 DAMPFDRUCKDIFFERENZ VON OXYGEN-16 UND OXYGEN-18 ZWISCHEN 63 GRAD UND 90
 GRAD K.
 (RESULTS OF LOW TEMPERATURE RESEARCH. XXXIII. THE VAPOR PRESSURE
 DIFFERENCE OF OXYGEN-16 AND OXYGEN-18 BETWEEN 63 AND 90 DEGREES K.)
 HELV. CHIM. ACTA VOL. 44, 98-105 (1961)
 OXYGEN, VAPOR PRESSURE-LIQUID (63 TO 90 DEGREES K.) THE DATA ARE FOR
 ISOTOPE 16 AND FOR THE RATIO OF THE VAPOR PRESSURES OF ISOTOPES 16 AND
 18, AN EQUATION IS GIVEN FOR THIS RATIO, CALCULATED VALUES OF HEAT OF
 VAPORIZATION AND NORMAL BOILING POINT-DIFFERENCE BETWEEN THE ISOTOPES.
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- 101 CLUSIUS, K., FLUBACHER, P., PIESBERGEN, U., SCHLEICH, K. AND
 SPERANDIO, A.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XXVII. VERGLEICH DER ATOM- UND
 SCHMELZWARMEN SOWIE DER ENTROPIEN DER KONDENSIERTEN ISOTOPE NEON-20 UND
 NEON-22.
 (RESULTS OF LOW TEMPERATURE RESEARCH. XXVII. COMPARISON OF THE ATOMIC AND
 MELTING HEATS AS WELL AS THE ENTROPY OF CONDENSED ISOTOPE NEON-20 AND
 NEON-22.)
 Z. NATURFORSCH. VOL. 15A, 1-9 (1960)
 NEON (ISOTOPES 20 AND 22), HEAT CAPACITY-SOLID (8 TO 23 DEGREES K.), AND
 LIQUID (25 TO 26 DEGREES K.), HEAT OF FUSION (24 TO 26 DEGREES K.).
 TRIPLE POINT.
 TABLE, GRAPH
 GERMAN
- 102 CLUSIUS, K. AND FRANK, A.
 ZUR ENTROPIE DES ARGONS.
 (ON THE ENTROPY OF ARGON.)
 Z. ELEKTROCHEM. VOL. 49, NO. 4, 308-9 (1943)
 ARGON, NORMAL BOILING POINT.
 TABLE (1 VALUE)
 GERMAN

- 103 CLUSIUS, K. AND HILLER, K.
 DIE SPEZIFISCHEN WARMEN DES PARAWASSERSTOFFS IN FESTEM, FLUSSIGEM UND
 GASFORMIGEM ZUSTANDE.
 (SPECIFIC HEAT OF PARAHYDROGEN IN SOLID, LIQUID AND GASEOUS STATES.)
 Z. PHYSIK. CHEM. (LEIPZIG) VOL. B4, 158-68 (1929)
- PARAHYDROGEN, HEAT CAPACITY-SOLID (11 TO 13 DEGREES K.) AND LIQUID (15 TO
 18 DEGREES K.), HEAT OF FUSION (14 TO 15 DEGREES K.), TRIPLE POINT
 TEMPERATURE.
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 GERMAN
- 104 CLUSIUS, K. AND KÖNNERTZ, F.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. VI. KALORIMETRISCHE MESSUNGEN DER
 VERDAMPFWARME DES SAUERSTOFFS BEI NORMALEM DRUCK SOWIE DES AETHYLENS
 UND PROPYLENS UNTERHALB UND OBERHALB VOM ATMOSPHERENDRUCK.
 (RESULTS OF LOW TEMPERATURE INVESTIGATIONS. VI. CALORIMETRIC MEASUREMENTS
 OF THE LATENT HEAT OF VAPORIZATION OF OXYGEN NEAR NORMAL PRESSURE AS WELL
 AS ETHYLENE AND PROPYLENE BELOW AND ABOVE ATMOSPHERIC PRESSURE.)
 Z. NATURFORSCH. PT. A. VOL. 4A, 117-240 (1949)
- OXYGEN, NORMAL BOILING POINT, HEAT OF VAPORIZATION AT NBP.
 TABLE
 GERMAN
- 105 CLUSIUS, K. AND PERLICK, A.
 DIE UNSTETIGKEIT IM THERMISCHEN UND KALORISCHEN VERHALTEN DES METHANS BEI
 20.4 GRAD ABS. ALS PHASENUMWANDLUNG ZWEITER ORDNUNG.
 (THE CHANGE IN THE THERMAL BEHAVIOR OF METHANE AT 20.4 DEGREES K FOR THE
 SECOND ORDER PHASE TRANSITION.)
 Z. PHYSIK. CHEM. VOL. B24, 313-27 (1934)
- METHANE, HEAT CAPACITY-SOLID II (15 TO 20 DEGREES K.) AND SOLID I (20 TO
 25 DEGREES K.). SOLID-SOLID TRANSITION (SOLID I TO SOLID II 20 TO 21
 DEGREES K. PRESSURES TO 200 ATMOSPHERES), HEAT OF TRANSITION (SOLID I TO
 SOLID II 19 TO 21 DEGREES K.).
 TABLE, GRAPH
 GERMAN
- 106 CLUSIUS, K., PIESBERGEN, U., AND VARDE, E.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XXVIII. DIE SCHMELZKURVE DES
 STICKSTOFFS BIS 250 ATM. UND DES STICKSTOFFMONOXYDS BIS 75 ATM.
 (RESULTS OF LOW TEMPERATURE RESEARCH. XXVIII. THE MELTING CURVE OF
 NITROGEN TO 250 ATM. AND OF NITROUS OXIDE TO 75 ATM.)
 HELV. CHIM. ACTA VOL. 42, 2356-64 (1959)
- NITROGEN, MELTING PRESSURE (63 TO 68 DEGREES K.), TRIPLE POINT,
 CALCULATED VALUES OF DENSITY OF SOLID AND LIQUID AT THE TRIPLE POINT AND
 OF THE HEAT OF FUSION.
 TABLE, GRAPH, EQUATION
 GERMAN

- 107 CLUSIUS, K., PIESBERGEN, U. AND VARDE, E.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XXXIII. DIE SCHMELZKURVE VON
 KOHLENOXYD BIS 250 ATM. UND SEIN VOLUMENSPRUNG AM SCHMELZPUNKT.
 (RESULTS OF LOW TEMPERATURE RESEARCH. XXXIII. THE MELTING POINT CURVE OF
 CARBON MONOXIDE UP TO 250 ATM. AND ITS VOLUME DISCONTINUITY AT THE
 MELTING POINT.)
HELV. CHIM. ACTA VOL. 43, 2059-63 (1960)
- CARBON MONOXIDE. MELTING PRESSURE (68 TO 74 DEGREES K.), TRIPLE POINT.
 CALCULATED VALUES OF DENSITY OF SOLID AND LIQUID AT THE TRIPLE POINT AND
 OF THE HEAT OF FUSION.
 TABLE, GRAPH, EQUATION
 GERMAN
- 108 CLUSIUS, K. AND POPP, L.
 DIE MOLWARMEN, SCHMELZ- UND UMwandlungswarmen DER KONDENSierten GASE CD4
 UND CH3D.
 (THE HEAT CAPACITY, HEAT OF FUSION AND HEATS OF TRANSITION OF THE
 CONDENSED GASES, DEUTEROMETHANES.)
Z. PHYSIK. CHEM. (LEIPZIG) VOL. B46, 63-81 (1940)
- DEUTERO-METHANES (CH3D AND CD4), HEAT CAPACITY-SOLID III (11 TO 20
 DEGREES K.), SOLID II (20 TO 25 DEGREES K.), SOLID I (27 TO 87 DEGREES
 K.) AND LIQUID (92 TO 100 DEGREES K.), HEAT OF FUSION (89 TO 95 DEGREES
 K.), HEATS OF TRANSITION (SOLID II TO SOLID III AND SOLID I TO SOLID II),
 SOLID-SOLID TRANSITIONS.
 TABLE, GRAPH
 GERMAN
- 109 CLUSIUS, K., POPP, L. AND FRANK, A.
 UBER UMwandlungen DES FESTEN MONO- UND TETRADEUTEROMETHANS. DIE
 ENTROPIEVERHALTNISSE DES MONODEUTEROMETHANS CH3D UND DES
 DEUTERIUMHYDRIDS HD.
 (THE TRANSITION OF SOLID MONO- AND TETRADEUTEROMETHANE. THE ENTROPY
 RELATIONS OF MONODEUTEROMETHANE AND DEUTERIUM HYDRIDE.)
PHYSICA VOL. 4, 1105-15 (1937)
- METHANE, SOLID-SOLID TRANSITION (SOLID ALPHA TO SOLID BETA), HEAT OF
 TRANSITION, HEAT OF FUSION, MELTING TEMPERATURE AND GRAPH OF HEAT
 CAPACITY (15 TO 100 DEGREES K.) SHOWING SOLID-SOLID TRANSITION AND
 MELTING POINT, TRIPLE POINT.
 DEUTERO-METHANES (CH3D AND CD4), SOLID-SOLID TRANSITIONS (SOLID ALPHA TO
 SOLID BETA AND SOLID BETA TO SOLID GAMMA). HEATS OF TRANSITION AND HEAT
 OF FUSION, MELTING TEMPERATURE, GRAPH OF HEAT CAPACITY (15 TO 100 DEGREES
 K.) SHOWING SOLID-SOLID TRANSITIONS AND MELTING POINT, TRIPLE POINT.
 TABLE, GRAPH
 GERMAN
- 110 CLUSIUS, K. AND SCHLEICH, K.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XX. DIREKTER VERGLEICH DER
 DAMPFDRUCKE VON 14N2, 14N15N UND 15N2 SOWIE VON 14N16O, 15N16O UND
 14N18O ZWISCHEN IHREN SCHMELZ- UND SIEDEPUNKTEN.
 (RESULTS OF LOW TEMPERATURE RESEARCH. DIRECT COMPARISON OF THE VAPOR
 PRESSURE OF NITROGEN ISOTOPES-14,15 IN N2 AND NITROGEN ISOTOPES-14,15
 AND OXYGEN ISOTOPES-16,18 IN NITRIC OXIDE BETWEEN THEIR MELTING AND
 BOILING POINTS.)
HELV. CHIM. ACTA VOL. 41, 1342-58 (1958)
- NITROGEN (ISOTOPES 14 AND 15), VAPOR PRESSURE-LIQUID (63 TO 77 DEGREES K)
 TRIPLE POINT.
 TABLE, GRAPH, EQUATION
 GERMAN

- 111 CLUSIUS, K., SCHLEICH, K. AND VOGELMANN, M.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XL. DIE DAMPFDRUCKE VON 36AR UND
 40AR ZWISCHEN SCHMELZ- UND SIEDEPUNKT.
 (LOW-TEMPERATURE RESEARCH. XL. THE VAPOR PRESSURES OF ARGON ISOTOPES 36
 AND 40 BETWEEN THE MELTING AND BOILING POINTS.)
 HELV. CHIM. ACTA VOL. 46, NO. 5, 1705-14 (1963)

ARGON, VAPOR PRESSURE-LIQUID (84 TO 88 DEGREES K.), NORMAL BOILING POINT,
 TRIPLE POINT. EQUATION FOR LIQUID VAPOR PRESSURE OF MIXTURES OF ARGON
 ISOTOPES 36 AND 40.
 OXYGEN, VAPOR PRESSURE-LIQUID (84 TO 88 DEGREES K.).
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- 112 CLUSIUS, K., SPERANDIO, A. AND PIESBERGEN, U.
 ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. XXIV. VERGLEICH DER MOL-,
 UMWANDLUNGS- UND SCHMELZWARMEN SOWIE DIE ENTROPIEN DER KONDENSIERTEN
 ISOTOPE 14-N2 UND 15-N2.
 (RESULTS OF LOW TEMPERATURE INVESTIGATIONS. XXIV. COMPARISON OF THE MOLAR
 HEAT, HEAT OF TRANSITION, AND HEAT OF FUSION AS WELL AS THE ENTROPIES OF
 THE CONDENSED ISOTOPES NITROGEN-14 AND NITROGEN-15.)
 Z. NATURFORSCH. VOL. 14A, NO. 9, 793-801 (1959)

NITROGEN (ISOTOPES 14 AND 15), HEAT CAPACITY-SOLID ALPHA (10 TO 35
 DEGREES K.), HEAT CAPACITY-SOLID BETA (36 TO 63 DEGREES K.), HEAT
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- 113 CLUSIUS, K. AND TESKE, W.
 DAMPFDRUCKE UND DAMPFDRUCKKONSTANTE DES KOHLENOXYDS.
 (VAPOR PRESSURE AND VAPOR PRESSURE CONSTANTS OF CARBON MONOXIDE.)
 Z. PHYSIK. CHEM. VOL. B6, 135-51 (1929)

CARBON MONOXIDE, VAPOR PRESSURE-SOLID (60 TO 68 DEGREES K.), VAPOR
 PRESSURE-LIQUID (70 TO 80 DEGREES K.), EQUATION FOR VAPOR PRESSURE.
 CALCULATED VALUES OF MELTING TEMPERATURE AND SOLID-SOLID TRANSITION
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 TABLE, EQUATION
 GERMAN

- 114 CLUSIUS, K. AND WEIGAND, K.
 DIE SCHMELZKURVEN DER GASE A, KR, X, CH4, CH3D, CD4 C2H4, C2H6, COS UND
 PH3 BIS 200 ATM. DRUCK. DER VOLUMENSPRUNG BEIM SCHMELZEN.
 (THE MELTING CURVES OF THE GASES ARGON, KRYPTON, XENON, THE DEUTERO
 METHANES CH3D AND CD4, ETHYLENE, ETHANE, CARBONYL SULFIDE, AND HYDROGEN
 PHOSPHIDE UP TO 200 ATM. PRESSURE. THE VOLUME DISCONTINUITY AT MELTING.)
 Z. PHYSIK. CHEM. VOL. B46, 1-37 (1940)

ARGON, MELTING PRESSURE (84 TO 89 DEGREES K.), TRIPLE POINT, DENSITY-
 SOLID (AT TRIPLE POINT).
 METHANE, MELTING PRESSURE (91 TO 95 DEGREES K.), TRIPLE POINT.
 DEUTERO-METHANE (CH3D AND CD4), MELTING PRESSURE (90 TO 94 DEGREES K.).
 TRIPLE POINT.
 TABLE
 GERMAN

115 COLWELL, J. H., GILL, E. K. AND MORRISON, J. A.
SECOND TRANSITION IN SOLID METHANE.
J. CHEM. PHYS. VOL. 36, 2223-4 (1962)

METHANE, HEAT CAPACITY-SOLID (10 TO 25 DEGREES K.), SHARP DISCONTINUITIES
SHOW THE PRESENCE OF SOLID-SOLID TRANSITIONS (TWO TRANSITIONS ARE SHOWN).
GRAPHICAL DATA ONLY

116 COLWELL, J. H., GILL, E. K., AND MORRISON, J. A.
THERMODYNAMIC PROPERTIES OF CH₄ AND CD₄. INTERPRETATION OF THE PROPERTIES
OF SOLIDS.
J. CHEM. PHYS. VOL. 39, NO. 3, 635-53 (1963)

METHANE, HEAT CAPACITY-SOLID II (5 TO 20 DEGREES K.), HEAT CAPACITY-SOLID
I (20 TO 90 DEGREES K.), HEAT CAPACITY-LIQUID (93 DEGREES K.), HEAT OF
FUSION (90 TO 92 DEGREES K.), SOLID-SOLID TRANSITION, TRIPLE POINT.
DEUTERO-METHANE (CD₄), HEAT CAPACITY-SOLID III (2 TO 21 DEGREES K.), HEAT
CAPACITY-SOLID II (22 TO 26 DEGREES K.), HEAT CAPACITY-SOLID I (27 TO 87
DEGREES K.), HEAT CAPACITY-LIQUID (91 TO 95 DEGREES K.), HEAT OF FUSION
(88 TO 90 DEGREES K.), HEAT OF VAPORIZATION, SOLID-SOLID TRANSITIONS,
TRIPLE POINT. SEE NUMBER 117 BELOW FOR CORRECTIONS.
TABLE, GRAPH

117 COLWELL, J. H., GILL, E. K., AND MORRISON, J. A.
THERMODYNAMIC PROPERTIES OF METHANE AND DEUTEROMETHANE.
J. CHEM. PHYS. VOL. 40, NO. 7, 2041-2 (1964)

METHANE, HEAT OF VAPORIZATION (101 DEGREES K.).
DEUTEROMETHANE (CH₂D₂), HEAT OF VAPORIZATION (101 DEGREES K.).
DEUTEROMETHANE (CH₄), HEAT OF VAPORIZATION (98 TO 104 DEGREES K.).
CORRECTION FOR NUMBER 116 ABOVE.
TABLE

118 COOK, G. A., DWYER, R. F. AND JENKINS, A. C.
RESEARCH ON RHEOLOGIC AND THERMODYNAMIC PROPERTIES OF SOLID AND SLUSH
HYDROGEN.
LINDE CORP., TONAWANDA, N. Y., QUART. REPT. NO. 3 (APR 1964) CONTR. NO.
AF 33(657)-11098

PARAHYDROGEN, MELTING LINE (14 TO 21 DEGREES K.), DENSITY-SOLID (14 TO 22
DEGREES K.), HEAT OF FUSION (14 TO 22 DEGREES K.). EQUATION FOR HEAT OF
FUSION.
A MORE COMPLETE REPORT OF THIS WORK APPEARS IN,
LINDE DIV., UNION CARBIDE CORP., TONAWANDA, N. Y., TWELVE-MONTHS REPT.
(OCT 1964) PROJ. NO. 3048, CONTR. NO. A.F. 33 (657)-11098
(AUTHORS, DWYER, R. F. AND COOK, G. A.)
TABLE

119 COOK, S. R.
ON THE VELOCITY OF SOUND IN GASES AND THE RATIO OF THE SPECIFIC HEATS, AT
THE TEMPERATURE OF LIQUID AIR.
PHYS. REV. VOL. 23, 212-37 (1906)

AIR, DENSITY-VAPOR (84 DEGREES K.).
OXYGEN, DENSITY-VAPOR (84 AND 89 DEGREES K.).
THE CONDITION OF THE FLUIDS IN THIS REFERENCE IS NOT STATED BUT THE DATA
ARE VERY NEAR SATURATION.
TABLE

120 CROMMELIN, C. A.
 ISOTHERMS OF MONATOMIC GASES AND OF THEIR BINARY MIXTURES. IV. REMARKS ON
 THE PREPARATION OF ARGON. V. VAPOUR PRESSURES ABOVE - 140 DEGREES C.,
 CRITICAL TEMPERATURE AND CRITICAL PRESSURE OF ARGON.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 115 (1910)
 ALSO IN KONINKL. NED. AKAD. WETENSCHAP. PROC. VOL. 13, 54-65 (1910)

ARGON, VAPOR PRESSURE-LIQUID (132 TO 150 DEGREES K.), CRITICAL PRESSURE
 AND TEMPERATURE, EQUATION FOR VAPOR PRESSURE
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121 CROMMELIN, C. A.
 ISOTHERMS OF MONATOMIC GASES AND THEIR BINARY MIXTURES. VI. COEXISTING
 LIQUID AND VAPOR DENSITIES OF ARGON, CALCULATION OF THE CRITICAL DENSITY
 OF ARGON.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 118A (1910)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 13, 607-13 (1911)
 TRANSLATION FROM VERSLAG. GEWONE VERGADER. AFDEL. NATUURK. KONINKL.
 NED. AKAD. WETENSCHAP. VOL. 18, 390-6 (1910)

ARGON, DENSITY-LIQUID (133 TO 148 DEGREES K.), DENSITY-VAPOR (133 TO 148
 DEGREES K.).
 A PREVIOUS PAPER BY THE SAME AUTHOR (NUMBER 120 ABOVE) PROVIDES DATA
 BY WHICH THE DIFFERENCE BETWEEN LIQUID AND VAPOR DENSITIES WERE
 DETERMINED.
 TABLE, GRAPH

122 CROMMELIN, C. A.
 ON THE TRIPLE POINT OF METHANE.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 131B (1912)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 15, 666 (1912)
 METHANE, TRIPLE POINT.
 TABLE (1 VALUE)

123 CROMMELIN, C. A.
 ISOTHERMS OF MONATOMIC GASES AND OF THEIR BINARY MIXTURES. XV. VAPOUR
 PRESSURE OF SOLID AND LIQUID ARGON FROM THE CRITICAL POINT DOWN TO -206
 DEGREES C.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 138C (1913)
 TRANSLATION FROM VERSLAG GEWONE VERGADER. WIS-EN NATUURK. AFDEEL VOL. 22,
 510-20 (OCT 1913)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 16, 477-85 (1913)
 ARGON, VAPOUR PRESSURE-SOLID (67 TO 84 DEGREES K.), VAPOUR PRESSURE-LIQUID
 (84 TO 150 DEGREES K.), TRIPLE POINT, EQUATION FOR VAPOUR PRESSURE.
 THIS PAPER CONTAINS A COMPILATION OF THE AUTHORS PREVIOUS ARGON DATA AS
 WELL AS NEW DATA.
 TABLE, EQUATION

124 CROMMELIN, C. A.
 ISOTHERMS OF MONATOMIC GASES AND THEIR BINARY MIXTURES. XVI. NEW
 DETERMINATIONS OF THE VAPOUR PRESSURE OF SOLID ARGON TO -205 DEGREES.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 140A (1914)
 TRANSLATION FROM VERSLAG GEWONE VERGADER. AFDEL. NATUURK. KONINKL. NED.
 AKAD. WETENSCHAP. VOL. 22, 1212-15 (1914)
 ARGON, VAPOUR PRESSURE-SOLID (68 TO 83 DEGREES K.), CALCULATED VALUES OF
 HEAT OF SUBLIMATION.
 TABLE, EQUATION

- 125 CROMMELIN, C. A.
 ISOTHERMS OF DIATOMIC GASES AND THEIR BINARY MIXTURES. XVI. VAPOR
 PRESSURE OF NITROGEN BETWEEN THE CRITICAL POINT AND THE BOILING POINT.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 145D (1915)
 TRANSLATIONN FROM VERSLAG GEWONE VERGADER. AFDEL. NATUURK. KONINKL. NED.
 AKAD. WETENSCHAP. VOL. 23, 991-4 (1915)
- NITROGEN, VAPOR PRESSURE-LIQUID (81 TO 124 DEGREES K.), CRITICAL PRESSURE
 AND TEMPERATURE, EQUATION FOR VAPOR PRESSURE.
 TABLE, EQUATION
- 126 CROMMELIN, C. A.
 FALL IN PRESSURE, DENSITY, AND HEAT OF VAPORIZATION OF ARGON.
 Z. SAUERSTOFF STICKSTOFF IND. VOL. 11, 81-3 (1919)
- ARGON, HEAT OF VAPORIZATION (87 DEGREES K.).
 THE JOURNAL ARTICLE WAS NOT AVAILABLE, HOWEVER ONE VALUE IS REPORTED IN
 THE ABSTRACT APPEARING IN CHEMICAL ABSTRACTS VOL. 14, 3342 (1920).
 TABLE (1 VALUE)
 GERMAN
- 127 CROMMELIN, C. A.
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- NEON, VAPOR PRESSURE-SOLID (14 AND 20 DEGREES K.), CRITICAL TEMPERATURE.
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- 128 CROMMELIN, C. A.
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- NEON, CRITICAL DENSITY (NO TEMPERATURE GIVEN).
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- 129 CROMMELIN, C. A., BIJLEVELD, W. J. AND BROWN, E. G.
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- CARBON MONOXIDE, VAPOR PRESSURE-SOLID (57 TO 68 DEGREES K.), VAPOR
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- 130 CROMMELIN, C. A. AND GIBSON, R. O.
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 173-6 (1927)
- NEON, VAPOR PRESSURE-SOLID (16 TO 25 DEGREES K.), VAPOR PRESSURE-LIQUID
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- 131 CWIOLONG, B. M.
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- HELIUM (HELIUM II), MELTING PRESSURE (1.4 TO 2.2 DEGREES K.).
 GRAPHICAL DATA ONLY
- 132 DANA, L. I.
 THE LATENT HEAT OF VAPORIZATION OF LIQUID OXYGEN-NITROGEN MIXTURES.
 PROC. AM. ACAD. ARTS SCI. VOL. 60, NO. 4, 241-267 (1925)
- NITROGEN, HEAT OF VAPORIZATION (AT NORMAL BOILING POINT).
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- 133 DANA, L. I. AND ONNES, H. K.
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 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 179C (1925)
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 WETENSCHAP. VOL. 34, 1335-9 (1925)
 ALSO IN KONINKL. NED. AKAD. WETENSCHAP. PROC. VOL. 29, 1051-60 (1926)
- HELIUM, HEAT OF VAPORIZATION (1.5 TO 4.2 DEGREES K.).
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- 134 DANA, L. I. AND ONNES, H. K.
 FURTHER EXPERIMENTS WITH LIQUID HELIUM. BB. PRELIMINARY DETERMINATIONS OF
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 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 179D (1926)
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- HELIUM, HEAT CAPACITY-LIQUID (2.6 TO 4.0 DEGREES K.).
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- 135 DASH, J. G. AND TAYLOR, R. D.
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- HELIUM-4, LIQUID-LIQUID TRANSITION (HELIUM I TO HELIUM II) A
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- 136 DE SMEDT, J. AND KEESEM, W. H.
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- ARGON, DENSITY-SOLID (APPROX. 20 DEGREES K.) (SPECTROSCOPIC DETERMINATION)
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- 137 DE SMEDT, J., KEESEM, W. H. AND MOOY, H. H.
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- NITROGEN, DENSITY-SOLID ALPHA (APPROX. 20 DEGREES K.) (SPECTROSCOPIC
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- 138 DE SMEDT, J., KEESEM, W. H. AND MOOY, H. H.
 ON THE CRYSTAL STRUCTURE OF NEON.
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- NEON, DENSITY-SOLID (APPROX. 4 DEGREES K.) (SPECTROSCOPIC DETERMINATION).
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- 139 DE VRIES, G. AND DAUNT, J. G.
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 PHYS. REV. VOL. 92, 1572-3 (1953)
- HELIUM-3, HEAT CAPACITY-LIQUID (1.3 TO 2.3 DEGREES K.).
 GRAPHICAL DATA ONLY
- 140 DE VRIES, G. AND DAUNT, J. G.
 SPECIFIC HEAT OF 96-PERCENT HELIUM-3 BELOW 1 DEGREE K.
 PHYS. REV. VOL. 93, 631-2 (1954)
- HELIUM-3, HEAT CAPACITY-LIQUID (0.5 TO 1.5 DEGREES K.).
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- 141 DEVYATYKH, G. G. AND ZORIN, A. D.
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 ZHUR. FIZ. KHM. VOL. 30, 1133-39 (1956)
- METHANE (WITH CARBON ISOTOPE 13), VAPOR PRESSURE-LIQUID (91 TO 112
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 CARBON MONOXIDE (WITH CARBON ISOTOPE 13), VAPOR PRESSURE-LIQUID (79
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142 DEWAR, J.
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PHIL. MAG. VOL. 18, 210-16 (1884)

METHANE, CRITICAL TEMPERATURE AND PRESSURE.
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143 DEWAR, J.
THE BOILING POINT AND DENSITY OF LIQUID HYDROGEN.
PROC. CHEM. SOC. (LONDON) VOL. 14, 146-7 (1898)

HYDROGEN, NORMAL BOILING POINT, DENSITY-LIQUID (35 DEGREES K.).
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144 DEWAR, J.
ON THE BOILING POINT OF LIQUID HYDROGEN UNDER REDUCED PRESSURE.
PROC. ROY. SOC. (LONDON) VOL. 64, 227-31 (1898)

HYDROGEN, VAPOR PRESSURE-LIQUID (35 TO 52 DEGREES K.), NORMAL BOILING
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145 DEWAR, J.
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NATURE VOL. 60, 514 (SEPT 1899)

HYDROGEN, MELTING TEMPERATURE (16 DEGREES K.).
TABLE (1 VALUE)

146 DEWAR, J.
THE BOILING POINT OF LIQUID HYDROGEN, DETERMINED BY HYDROGEN AND
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PROC. ROY. SOC. (LONDON) VOL. 68, 44-54 (1901)

HYDROGEN, NORMAL BOILING POINT (20 DEGREES K.).
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147 DEWAR, J.
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NATURE VOL. 65, 382 (1902)

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148 DEWAR, J.
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HYDROGEN, DENSITY-LIQUID (AT NORMAL BOILING POINT).
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- 149 DEWAR, J.
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PROC. ROY. SOC. (LONDON) VOL. A76, 325-40 (1905)

HYDROGEN, HEAT OF VAPORIZATION (20 DEGREES K.).
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- 150 DEWAR, J.
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- 151 DIN, F.
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BULL. INST. INTERN. FROID. VOL. 33, 17-30 (1953)

ARGON, VAPOR PRESSURE-LIQUID (90 TO 110 DEGREES K.).
OXYGEN, VAPOR PRESSURE-LIQUID (90 TO 110 DEGREES K.).
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- 152 DOBBS, E. R., FIGGINS, B. F., HEASTIE, R., JONES, G. O. AND WALKER, P. A.
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P. 516-8 IN LOW TEMPERATURE PHYSICS AND CHEMISTRY, PROC. 5TH INTERN.
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ARGON, DENSITY-SOLID (20 TO 80 DEGREES K.).
GRAPHICAL DATA ONLY

- 153 DOBBS, E. R., FIGGINS, B. F., JONES, G. O., PIERCEY, D. C., RILEY, D. P.
DENSITY AND EXPANSIVITY OF SOLID ARGON.
NATURE VOL. 178, 483 (1956)

ARGON, DENSITY-SOLID (20 TO 84 DEGREES K.).
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- 154 DODGE, B. F. AND DAVIS, H. N.
VAPOR PRESSURE OF LIQUID OXYGEN AND NITROGEN.
J. AM. CHEM. SOC. VOL. 49, 610-20 (1927)

NITROGEN, VAPOR PRESSURE-LIQUID (76 TO 122 DEGREES K.).
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- NITROGEN, VAPOR PRESSURE-SOLID (42 TO 60 DEGREES K.).
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- 156 DOKOUPIL, Z., VAN SOEST, G., WANSINK, D. H. N. AND KAPADNIS, D. G.
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 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 298A (1954)
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- HELIUM-4, HEAT CAPACITY-LIQUID (1.0 TO 2.3 DEGREES K.).
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- 157 DRUGMAN, J. AND RAMSAY, W.
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 J. CHEM. SOC. (LONDON) VOL. 77, 1228-33 (1900)
- FLUORINE, DENSITY-LIQUID (86 DEGREES K.).
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- 158 DUGDALE, J. S. AND SIMON, F. E.
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 PROC. ROY. SOC. (LONDON) VOL. A218, 291-310 (1953)
- HELIUM, HEAT CAPACITY-SOLID (4 TO 23 DEGREES K.), MELTING PRESSURES (4 TO
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 JET PROPULSION LAB., CALIF. INST. TECHNOL., PASADENA, COMBINED
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- FLUORINE, DENSITY-LIQUID (65 TO 85 DEGREES K.).
 GRAPHICAL DATA ONLY
- 160 DUPRE, A., VAN ITTERBEEK, A., AND BRANDT, G.
 ON THE INCREASE OF THE BOILING TEMPERATURE OF LIQUID OXYGEN IN A MAGNETIC
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 PHYSICA VOL. 28, 353-6 (1962)
- OXYGEN, NORMAL BOILING POINT (VARIATION OF THE BOILING POINT IN A
 MAGNETIC FIELD, FIELD STRENGTH VARIED FROM 0 TO 28 KG.).
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- 161 DURIEUX, M.
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- HELIUM-4, LAMBDA TRANSITION
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- 162 EDESKUTY, F. J. AND SHERMAN, R. H.
P-V-T RELATIONS OF LIQUID HELIUM-3 AND HELIUM-4.
P. 102-6 IN LOW TEMPERATURE PHYSICS AND CHEMISTRY, PROC. 5TH INTERN.
CONF. ON LOW TEMP. PHYS. AND CHEM., MADISON, WISC. (AUG 1957)
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- HELIUM-3, DENSITY-LIQUID (1.2 TO 4.0 DEGREES K.), EQUATION FOR MELTING
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PHYS. LETTERS VOL. 1, NO. 6, 218-20 (1962)
- HELIUM-3, HEAT CAPACITY-SOLID ALPHA (0.06 TO 0.09 DEGREES K.).
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- 164 EDWARDS, J. W. AND KINGTON, G. L.
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- OXYGEN, VAPOR PRESSURE-LIQUID (67 TO 90 DEGREES K.).
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- 165 EDWARDS, M. H. AND WOODBURY, W. C.
COMPRESSIBILITY OF LIQUID HELIUM-4.
CAN. J. PHYS. VOL. 39, 1833-41 (1961)
- HELIUM-4, DENSITY-LIQUID (3 TO 5 DEGREES K.). THE DENSITY WAS CALCULATED
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PHYS. REV. VOL. 129, NO. 5, 1911-18 (1963)
- HELIUM-4, DENSITY-LIQUID (4.2 TO 5.2 DEGREES K.), DENSITY-VAPOR (4.2 TO
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- FLUORINE, DENSITY-LIQUID (65 TO 85 DEGREES K.), NORMAL BOILING POINT.
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- 168 ELVERUM, G. W., AND DOESCHER, R. N.
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- FLUORINE, DENSITY-LIQUID (65 TO 85 DEGREES K.).
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- 169 EMEL'IANOVA, T. I., STRAKHOV, B. V., AND LEBEDEV, V. P.
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 AM. ROCKET SOC. J. VOL. 31, NO. 9, 1350 (1961)
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- OXYGEN, DENSITY-LIQUID (78 DEGREES K.).
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- 170 ERICKSON, R. A. AND ROBERTS, L. D.
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- HELIUM-4, VAPOR PRESSURE-LIQUID (1 TO 4 DEGREES K.).
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- 171 ESEL'SON, B. N. AND LAZAREV, B. G.
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- HELIUM-4, MELTING PRESSURE (1.5 TO 2.3 DEGREES K.).
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- 172 ESTREICHER, M. T.
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 (ON THE HEATS OF VAPORIZATION OF OXYGEN AND SULFUR DIOXIDE.)
 BULL. INTERN. ACAD. SCI. CRACOVIE, CLASSE SCI. MATH. MET., NO. 3, 183-96 (1904)
- OXYGEN, HEAT OF VAPORIZATION (NEAR BOILING POINT).
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- 173 ESTREICHER, T.
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- 174 ESTREICHER, T. AND BOBOEK, J.
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- 175 EUCKEN, A.
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 VERHANDL. DEUT. PHYSIK GES. VOL. 18, 4-17 (1916)
- ARGON, HEAT CAPACITY-SOLID (18 TO 78 DEGREES K.), HEAT CAPACITY-LIQUID
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- 176 EUCKEN, A. AND BERGER, W.
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- METHANE, VAPOR PRESSURE-LIQUID (132 TO 181 DEGREES K.).
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- 177 EUCKEN, A. AND HAUCK, F.
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 Z. PHYSIK. CHEM. VOL. 134, 161-77 (1928)
- AIR, HEAT CAPACITY-LIQUID (80 TO 120 DEGREES K.).
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- 178 EUCKEN, A. AND KARWAT, E.
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Z. PHYSIK. CHEM. VOL. 112, 467-85 (1925)
- METHANE, HEAT CAPACITY-SOLID (28 TO 87 DEGREES K.), HEAT CAPACITY-LIQUID
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- 179 FAIRBANK, W. M., BUCKINGHAM, M. J. AND KELLERS, C. F.
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 P. 50-2 IN LOW TEMPERATURE PHYSICS AND CHEMISTRY, PROC. 5TH INTERN. CONF.
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- 180 FASTOVSKII, V. G. AND PETROVSKII, YU. V.
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- OXYGEN, VAPOR PRESSURE-LIQUID (94 TO 113 DEGREES K.)
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 THE HEAT OF VAPORIZATION OF LIQUID AIR.
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- AIR, HEAT OF VAPORIZATION (NO TEMPERATURE GIVEN).
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- NITROGEN, VAPOR PRESSURE-LIQUID (63 TO 77 DEGREES K.), NORMAL BOILING
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- 184 FISCHER, W. AND KLEMM, W.
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 (PREPARATION OF MATERIALS USED IN THE PREVIOUS ARTICLE AND DATA FOR THEIR
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- METHANE, VAPOR PRESSURE-SOLID (91 DEGREES K.).
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- 185 FLUBACHER, P., LEADBETTER, A. J., AND MORRISON, J. A.
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 THERMODYNAMIC PROPERTIES OF ARGON.
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 (84 TO 86 DEGREES K.), HEAT OF FUSION, HEAT OF VAPORIZATION, VAPOR
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- 186 FLUBACHER, P., LEADBETTER, A. J. AND MORRISON, J. A.
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- 187 FRANCK, J. P.
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PHYS. REV. LETTERS VOL. 7, NO. 12, 435-7 (1961)
- HELIUM-3, SOLID-SOLID TRANSITION (BETA TO GAMMA), HEAT OF TRANSITION
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- 188 FRANK, A. AND CLUSIUS, K.
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Z. PHYSIK. CHEM. (LEIPZIG) VOL. B36, 291-300 (1937)
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- 189 FRANK, A. AND CLUSIUS, K.
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 METHANE, HEAT OF VAPORIZATION, VAPOR PRESSURE-LIQUID (99 TO 100 DEGREES K.)
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- 191 FREETH, F. A. AND VERSCHOYLE, T. T. H.
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 TO 92 DEGREES K.), TRIPLE POINT, EQUATIONS FOR SOLID VAPOR PRESSURE AND
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- 192 FRIEDMAN, A. S.
 PRESSURE-VOLUME-TEMPERATURE RELATIONSHIPS OF GASEOUS HYDROGEN, NITROGEN,
 AND A HYDROGEN-NITROGEN MIXTURE.
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- 193 FRIEDMAN, A. S. AND WHITE, D.
 THE VAPOR PRESSURE OF LIQUID NITROGEN.
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- 194 FRIEDMAN, A. S., WHITE, D. AND JOHNSTON, H. L.
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 AND TEMPERATURE, EQUATION FOR LIQUID VAPOR PRESSURE.
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- 195 FURUKAWA, G. T. AND MC COSKEY, R. E.
 THE CONDENSATION LINE OF AIR AND THE HEATS OF VAPORIZATION OF OXYGEN AND
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 (A DETERMINATION OF VAPOR PRESSURE AND DENSITY CURVES OF OXYGEN AND THE
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- OXYGEN, DENSITY-LIQUID (100 TO 136 DEGREES K.), VAPOR PRESSURE (92 TO 136
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- 197 GEROLD, E.
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 (THE DENSITY, REFRACTIVE INDEX AND DISPERSION OF GASEOUS NITROGEN NEAR
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- NITROGEN, DENSITY-VAPOR (77 TO 78 DEGREES K.). IT IS NOT EXPLICITLY CLEAR
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- 198 GERRITSEN, A. N. AND VAN DER STAR, P.
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- METHANE, SOLID-SOLID TRANSITION (APPROX. 20 DEGREES K.). THE TRANSITION
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199 GIAUQUE, W. F. AND CLAYTON, J. O.

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HYDROGEN (ORTHO-PARA, UNKNOWN COMPOSITION), TRIPLE POINT.

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201 GIAUQUE, W. F. AND JOHNSTON, H. L.

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202 GIAUQUE, W. F., JOHNSTON, H. L., AND KELLEY, K. K.

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203 GONZALEZ, O. D.

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DEUTERIUM (NORMAL DEUTERIUM AND ORTHODEUTERIUM), HEAT CAPACITY-SOLID (0.3 TO 13 DEGREES K.).

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- 204 GONZALEZ, O. D., WHITE, D. AND JOHNSTON, H. L.
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(0.3 TO 14 DEGREES K.).
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- 205 GOODWIN, R. D.
APPARATUS FOR DETERMINATION OF PRESSURE-DENSITY-TEMPERATURE RELATIONS AND
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DEGREES K.
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- PARAHYDROGEN, VAPOR PRESSURE-LIQUID (22 TO 32 DEGREES K.).
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- 206 GOODWIN, R. D., DILLER, D. E., RODER, H. M., AND WEBER, L. A.
THE DENSITIES OF SATURATED LIQUID HYDROGEN.
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100 DEGREES K AT PRESSURES TO 350 ATMOSPHERES.
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- 208 GOODWIN, R. D. AND RODER, H. J.
PRESSURE-DENSITY-TEMPERATURE RELATIONS OF FREEZING LIQUID PARA-HYDROGEN
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- 209 GRENIER, G. AND WHITE, D.
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GRAPHICAL DATA ONLY

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 HEAT CAPACITIES OF SOLID DEUTERIUM (33.1 TO 87.2 PERCENT PARA) FROM
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- 211 GRENIER, G. AND WHITE, D.
 HEAT CAPACITY OF SOLID HYDROGEN DEUTERIDE.
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- 212 GRILLY, E. R.
 THE VAPOR PRESSURES OF HYDROGEN, DEUTERIUM, AND TRITIUM UP TO THREE
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 DEUTERIUM, VAPOR PRESSURE-SOLID (14 TO 19 DEGREES K.), VAPOR PRESSURE-
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- 213 GRILLY, E. R.
 THE DENSITIES OF LIQUID TRITIUM, 20.6 TO 29 DEGREES K.
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- TRITIUM, DENSITY-LIQUID (21 TO 29 DEGREES K.).
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- 214 GRILLY, E. R.
 THE VAPOUR PRESSURE OF SOLID AND LIQUID NEON.
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- 215 GRILLY, E. R., HAMMEL, E. F., AND SYDORIAK, S. G.
 APPROXIMATE DENSITIES OF LIQUID HELIUM-3 BETWEEN 1.27 DEGREES AND
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- 216 GRILLY, E. R. AND MILLS, R. L.
 VOLUME CHANGE ON MELTING OF NITROGEN UP TO 3500 KG/SQ.CM.
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- 217 GRILLY, E. R. AND MILLS, R. L.
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- 218 GRILLY, E. R. AND MILLS, R. L.
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 ANN. PHYS. (N. Y.) VOL. 18, 250-63 (1962)
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- 219 GRILLY, E. R., SYDORIAK, S. G. AND MILLS, R. L.
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- 220 GROTH, W., IHLE, H. AND MURRENHOFF, A.
 BESTIMMUNG DER TEMPERATURABHANGIGKEIT DER DAMPFDRUCKVERHALTNISSE.
 (DETERMINATION OF THE TEMPERATURE DEPENDENCE OF THE VAPOR PRESSURE.
 RELATIONS.)
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- 221 GROTH, W., IHLE, H. AND MURRENHOFF, A.
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 ANGEW. CHEM. VOL. 68, 644-8 (1956)
- OXYGEN (ISOTOPES 16 AND 18), VAPOR PRESSURE-LIQUID (63 TO 74 DEGREES K.),
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- 222 GUTHRIE, G. L.
 THE VAPOR PRESSURE OF SOLID HYDROGEN IN THE TEMPERATURE RANGE FROM 4.7
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 GENERAL DYNAMICS, GENERAL ATOMIC DIV., AFOSR-2357 (FEB 1962) 21PP.
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- 223 HEASTIE, R. AND LEFEBVRE, C.
 PHASE EQUILIBRIA IN CONDENSED MIXTURES OF ARGON AND XENON.
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- 224 HELTEMES, E. C.
 THE HEAT CAPACITY OF SOLID HELIUM-3 UNDER PRESSURE.
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- HELIUM-3, MELTING PRESSURE (SOLID ALPHA) (0.7 TO 3 DEGREES K.) AND (SOLID
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- 225 HELTEMES, E. C. AND SWENSON, C. A.
 SPECIFIC HEAT OF SOLID HELIUM-3.
 PHYS. REV. LETTERS VOL. 7, NO. 10, 363-65 (1961)
- HELIUM-3, HEAT CAPACITY-SOLID ALPHA (0.3 TO 2 DEGREES K.).
 GRAPHICAL DATA ONLY
- 226 HELTEMES, E. C. AND SWENSON, C. A.
 HEAT CAPACITY OF SOLID HELIUM-3.
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- HELIUM-3, HEAT CAPACITY-SOLID ALPHA (0.7 TO 2.5 DEGREES K.), SOLID BETA
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- 227 HENNING, F.
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 ANN. PHYSIK VOL. 43, 282-94 (1914)
- OXYGEN, VAPOR PRESSURE-LIQUID (88 TO 90 DEGREES K.), NORMAL BOILING POINT
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 GERMAN
- 228 HENNING, F.
 TENSORS- UND WIDERSTANDSTHERMOMETER IM TEMPERATUR-GEBIET DES
 VERFLUSSIGTEN STICKSTOFFS UND WASSERSTOFFS.
 (VAPOR PRESSURE AND RESISTANCE THERMOMETER IN THE TEMPERATURE REGION OF
 LIQUID NITROGEN AND HYDROGEN.)
 Z. PHYSIK VOL. 40, 775-85 (1926)
- NITROGEN, VAPOR PRESSURE-SOLID (61 TO 63 DEGREES K.) AND LIQUID (61 TO
 79 DEGREES K.), TRIPLE POINT, EQUATION FOR LIQUID VAPOR PRESSURE.
 HYDROGEN, VAPOR PRESSURE-LIQUID (14 TO 20 DEGREES K.), TRIPLE POINT,
 EQUATION FOR LIQUID VAPOR PRESSURE.
 TABLE, EQUATION
 GERMAN
- 229 HENNING, F. AND HEUSE, W.
 EINE NEUE BESTIMMUNG DER NORMALEN SIEDEPUNKTE VON SAUERSTOFF, STICKSTOFF,
 UND WASSERSTOFF.
 (A NEW DETERMINATION OF THE NORMAL BOILING POINT OF OXYGEN, NITROGEN, AND
 HYDROGEN.)
 Z. PHYSIK VOL. 23, 105-16 (1924)
- OXYGEN, VAPOR PRESSURE-LIQUID (68 TO 89 DEGREES K.). EQUATION FOR LIQUID
 VAPOR PRESSURE.
 NITROGEN, VAPOR PRESSURE-LIQUID (68 TO 78 DEGREES K.). EQUATION FOR
 LIQUID VAPOR PRESSURE.
 HYDROGEN, NORMAL BOILING POINT.
 TABLE, EQUATION
 GERMAN
- 230 HENNING, F. AND OTTO, J.
 DAMPFDRUCKKURVEN UND FIXPUNKTE IM TEMPERATURGEBIET VON 14 GRAD BIS 90
 GRAD ABS.
 (VAPOR PRESSURE CURVES AND FIXED POINTS IN THE TEMPERATURE RANGE FROM 14
 DEGREES TO 90 DEGREES ABSOLUTE.)
 P. 174-86 IN PROC. INTERN. CONGR. REFRIG. 7TH CONG. THE HAGUE-AMSTERDAM
 (1936)
 ALSO IN PHYSIK Z. VOL. 37, 633-8 (1936)
- HYDROGEN, VAPOR PRESSURE-LIQUID (14 TO 20 DEGREES K.), TRIPLE POINT
 TEMPERATURE AND PRESSURE, NORMAL BOILING POINT, EQUATION FOR LIQUID VAPOR
 PRESSURE.
 NEON, VAPOR PRESSURE-LIQUID (25 TO 28 DEGREES K.) AND SOLID (22 TO 24
 DEGREES K.), TRIPLE POINT TEMPERATURE AND PRESSURE, NORMAL BOILING POINT,
 EQUATIONS FOR LIQUID AND SOLID VAPOR PRESSURE.
 NITROGEN, VAPOR PRESSURE-LIQUID (22 TO 24 DEGREES K.), TRIPLE POINT
 TEMPERATURE AND PRESSURE, NORMAL BOILING POINT, EQUATION FOR LIQUID VAPOR
 PRESSURE.
 OXYGEN, VAPOR PRESSURE-LIQUID (67 TO 90 DEGREES K.), TRIPLE POINT
 TEMPERATURE AND PRESSURE, NORMAL BOILING POINT, EQUATION FOR LIQUID VAPOR
 PRESSURE.
 INCLUDES AN EXTENSIVE COMPILATION OF EXISTING TRIPLE POINT AND NORMAL
 BOILING POINT DATA.
 TABLE
 GERMAN

- 231 HENNING, F. AND STOCK, A.
 UBER DIE SATTIGUNGSDRUCKE EINIGER DAMPFE ZWISCHEN +10 UND -181 GRAD.
 (THE SATURATION PRESSURE OF SOME VAPORS BETWEEN +10 AND -181 DEGREES.)
Z. PHYSIK VOL. 4, 226-40 (1920)
- METHANE, VAPOR PRESSURE-LIQUID (91 TO 111 DEGREES K.), AND SOLID (80 TO 86 DEGREES K.), NORMAL BOILING POINT, EQUATION FOR SOLID AND LIQUID VAPOR PRESSURE.
 TABLE
 GERMAN
- 232 HERCUS, G. R. AND WILKS, J.
 THE SPECIFIC HEAT OF LIQUID HELIUM II AS A FUNCTION OF PRESSURE.
PHIL. MAG. VOL. 45, 1163-72 (1954)
- HELIUM-4, HEAT CAPACITY-LIQUID (1.4 TO 2.0 DEGREES K.).
 TABLE, GRAPH
- 233 HERZBERG, F.
 EFFECTIVE DENSITY OF BOILING LIQUID OXYGEN.
P. 526-32 IN ADVANCES IN CRYOGENIC ENGINEERING, VOL. 5, PROC. 1959 CRYO. ENG. CONF., BERKELEY, CALIF. (1959) PLenum Press, New York (1960)
- OXYGEN, BULK DENSITY-LIQUID (TEMPERATURE NOT MEASURED), DENSITY PLOTTED AGAINST VAPOR PRESSURE WHICH VARIED FROM 15 TO 28 PSIA.
 GRAPHICAL DATA ONLY
- 234 HESTERMANS, P. AND WHITE, D.
 THE VAPOR PRESSURE, HEAT OF VAPORIZATION AND HEAT CAPACITY OF METHANE FROM THE BOILING POINT TO THE CRITICAL TEMPERATURE.
J. PHYS. CHEM. VOL. 65, 362-65 (1961)
- METHANE, VAPOR PRESSURE-LIQUID (110 TO 190 DEGREES K.), HEAT CAPACITY-LIQUID (115 TO 187 DEGREES K.), HEAT OF VAPORIZATION (112 TO 185 DEGREES K.), EQUATION FOR LIQUID VAPOR PRESSURE.
 TABLE, EQUATION
- 235 HEUSE, W.
 MOLVOLUMEN VON KOHLENWASSERSTOFFEN UND EINIGEN ANDEREN VERBINDUNGEN BEI TIEFER TEMPERATUR.
 (MOLECULAR VOLUME OF HYDROCARBONS AND OTHER COMPOUNDS AT LOW TEMPERATURES.)
Z. PHYSIK. CHEM. (LEIPZIG) VOL. A147, 266-74 (1930)
- METHANE, DENSITY-SOLID (20.4 DEGREES K.)
 ONE TABULAR VALUE
 GERMAN
- 236 HEUSE, W. AND OTTO, J.
 EINE NEUE GASTHERMOMETRISCHE BESTIMMUNG VON FIXPUNKTEN UNTERHALB 0 GRAD IN VERBINDUNG MIT TENSIO- UND WIDERSTANDSTHERMOMETERN.
 (A NEW GAS THERMOMETER DETERMINATION OF SOME FIXED POINTS BELOW 0 DEGREES IN CONNECTION WITH VAPOR PRESSURE AND RESISTANCE THERMOMETERS.)
ANN. PHYSIK (5) VOL. 9, 486-504 (1931)
- HYDROGEN, VAPOR PRESSURE-LIQUID (20.3 TO 20.5 DEGREES K.).
 OXYGEN, VAPOR PRESSURE-LIQUID (89.8 TO 90.6 DEGREES K.).
 TABLE
 GERMAN

- 237 HEUSE, W. AND OTTO, J.
 GASTHERMOMETRISCHE BESTIMMUNG EINIGER FIXPUNKTE UNTERHALB 0 GRAD MIT
 TENSORS UND WIDERSTANDSTHERMOMETERN. II.
 (GAS THERMOMETER DETERMINATIONS OF SOME FIXED POINTS BELOW 0 DEGREES WITH
 VAPOR PRESSURE AND RESISTANCE THERMOMETERS. II.)
 ANN. PHYSIK VOL. 14, 185-92 (1932)
- CARBON MONOXIDE, VAPOR PRESSURE-LIQUID (78.1 TO 81.7 DEGREES K.).
 NITROGEN, VAPOR PRESSURE-LIQUID (77.3 TO 77.8 DEGREES K.).
 OXYGEN, VAPOR PRESSURE-LIQUID (89.7 TO 90.2 DEGREES K.).
 TABLE
 GERMAN
- 238 HILL, R. W. AND LOUNASMAA, O. V.
 THE SPECIFIC HEAT OF LIQUID HELIUM.
 PHIL. MAG. VOL. 2, 143-8 (1957)
- HELIUM, HEAT CAPACITY-LIQUID (1.8 TO 5.0 DEGREES K.).
 TABLE, GRAPH
- 239 HILL, R. W. AND LOUNASMAA, O. V.
 THE LATTICE SPECIFIC HEATS OF SOLID HYDROGEN AND DEUTERIUM.
 PHIL. MAG. VOL. 4, NO. 43, 785-95 (1959)
- PARAHYDROGEN, HEAT CAPACITY-SOLID (2.5 TO 9 DEGREES K.), EQUATION FOR
 SOLID HEAT CAPACITY.
 DEUTERIUM(ORTHO), HEAT CAPACITY-SOLID (2 TO 10 DEGREES K.).
 TABLE, EQUATION, GRAPH
- 240 HILL, R. W. AND RICKETSON, B. W. A.
 XXXI. A LAMBDA-ANOMALY IN THE SPECIFIC HEAT OF SOLID HYDROGEN.
 PHIL. MAG. VOL. 45, 277-82 (1954)
- HYDROGEN (ORTHO-PARA MIXTURES, ORTHO CONCENTRATIONS VARY FROM 0.5 TO
 74 PERCENT), HEAT CAPACITY-SOLID (2 TO 12 DEGREES K.).
 GRAPHICAL DATA ONLY
- 241 HILL, R. W., RICKETSON, B. W. A. AND SIMON, F.
 A LAMBDA-ANOMALY IN THE SPECIFIC HEAT OF HYDROGEN.
 BULL. INST. INTERN. FROID ANNEXE 1955-2, 113-4 (1954)
- HYDROGEN (ORTHO-PARA MIXTURE), HEAT CAPACITY-SOLID (0.7 TO 2 DEGREES K.).
 NO DATA - QUALITATIVE DISCUSSION OF EXPERIMENTAL RESULTS.
- 242 HOGE, H. J.
 VAPOR PRESSURE AND FIXED POINTS OF OXYGEN AND HEAT CAPACITY IN THE
 CRITICAL REGION.
 J. RESEARCH NATL. BUR. STANDARDS VOL. 44, 321-45 (1950)
- OXYGEN, VAPOR PRESSURE-LIQUID (54 TO 155 DEGREES K.) AND SOLID (51 TO
 54 DEGREES K.), SOLID-SOLID TRANSITION (SOLID III TO SOLID II, 23.9
 DEGREES K. AND SOLID II TO SOLID I, 43.8 DEGREES K.), TRIPLE POINT,
 CONTAINS AN EXTENSIVE COMPILATION OF FIXED POINTS FOR OXYGEN.
 TABLE

- 243 HOGE, H. J. AND ARNOLD, R. D.
 VAPOR PRESSURES OF HYDROGEN, DEUTERIUM, AND HYDROGEN DEUTERIDE AND DEW-
 POINT PRESSURES OF THEIR MIXTURES.
 J. RESEARCH NATL. BUR. STANDARDS VOL. 47, 63-74 (1951) RP 2228
- HYDROGEN (20.4 DEGREE K. EQUILIBRIUM), VAPOR PRESSURE-LIQUID (17 TO 33
 DEGREES K.), NORMAL BOILING POINT.
 DEUTERIUM (NORMAL), VAPOR PRESSURE-LIQUID (21 TO 34 DEGREES K.).
 DEUTERIUM (20.4 DEGREE K. EQUILIBRIUM), VAPOR PRESSURE-LIQUID (19 TO 38
 DEGREES K.), NORMAL BOILING POINT, TRIPLE POINT.
 HYDROGEN DEUTERIDE, VAPOR PRESSURE-LIQUID (17 TO 35 DEGREES K.), NORMAL
 BOILING POINT, TRIPLE POINT, EQUATION FOR LIQUID VAPOR PRESSURE.
 TABLE, GRAPH
- 244 HOGE, H. J., AND LASSITER, J. W.
 CRITICAL TEMPERATURES, PRESSURES, AND VOLUMES OF HYDROGEN, DEUTERIUM, AND
 HYDROGEN DEUTERIDE.
 J. RESEARCH NATL. BUR. STANDARDS VOL. 47, 75-9 (1951)
- HYDROGEN (20.4 DEGREE K. EQUILIBRIUM), VAPOR PRESSURE-LIQUID (32 TO 33
 DEGREES K.), DENSITY-LIQUID (32 TO 33 DEGREES K.), CRITICAL TEMPERATURE,
 PRESSURE AND MOLAR VOLUME.
 DEUTERIUM (20.4 DEGREE K. EQUILIBRIUM), VAPOR PRESSURE-LIQUID (37 TO 41
 DEGREES K.), DENSITY-LIQUID (37 TO 41 DEGREES K.), CRITICAL TEMPERATURE,
 PRESSURE AND MOLAR VOLUME.
 HYDROGEN DEUTERIDE (20.4 DEGREE K. EQUILIBRIUM), VAPOR PRESSURE-LIQUID
 (35 TO 36 DEGREES K.), DENSITY-LIQUID (35 TO 36 DEGREES K.), CRITICAL
 TEMPERATURE, PRESSURE AND MOLAR VOLUME.
 TABLE, GRAPH
- 245 HOLLAND, F. A., HUGGILL, J. A. W. AND JONES, G. O.
 THE SOLID-FLUID EQUILIBRIUM OF HELIUM ABOVE 5000 ATM. PRESSURE.
 PROC. ROY. SOC. (LONDON) VOL. A207, 268-77 (1951)
- HELUM, MELTING PRESSURE (30 TO 50 DEGREES K.), EQUATION FOR MELTING
 PRESSURE FROM 2.4 TO 50 DEGREES K.
 EXTENDED VERSION OF 246 BELOW.
 EQUATION, GRAPH
- 246 HOLLAND, F. A., HUGGILL, J. A. W., JONES, G. O. AND SIMON, F. E.
 SOLID HELIUM AT 'HIGH' TEMPERATURES.
 NATURE VOL. 165, 147-8 (1950)
- HELUM, MELTING PRESSURE (30 TO 50 DEGREES K.).
 SHORT VERSION OF 245 ABOVE.
 EQUATION, GRAPH
- 247 HOLST, G.
 ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XXVI. THE VAPOUR-PRESSES
 OF OXYGEN AND NITROGEN ACCORDING TO THE PRESSURE-MEASUREMENTS BY V.
 SIEMENS AND THE TEMPERATURE-DETERMINATIONS BY KAMERLINGH ONNES C. S.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. VOL. 148A, (1915)
 TRANSLATION FROM VERSLAG GEWONE VER. WIS NATUURK. AFDEEL. KON. AKAD.
 WETENSCHAP. AMSTERDAM VOL. 25, 603-13 (1915)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 18, 829-39 (1916)
- OXYGEN, VAPOR PRESSURE-LIQUID (57 TO 90 DEGREES K.).
 NITROGEN, VAPOR PRESSURE-LIQUID (57 TO 80 DEGREES K.).
 THIS IS NOT ORIGINAL DATA BUT CORRECTS VAPOR PRESSURE DATA OF 485 BY VON
 SIEMENS AND SHOULD BE USED TO CORRECT THE TEMPERATURES IN THAT PAPER.
 TABLE

- 248 HOLST, G. AND HAMBURGER, L.
 INVESTIGATION OF THE EQUILIBRIUM LIQUID-VAPOUR OF THE SYSTEM ARGON-NITROGEN.
 PROC. AKAD. WETENSCHAPPEN VOL. 18, 872-94 (1916)
 TRANSLATION FROM Z. PHYSIK. CHEM. VOL. 91, 513-47 (1916)
- OXYGEN, VAPOR PRESSURE-LIQUID (78 TO 83 DEGREES K.).
 NITROGEN, VAPOR PRESSURE-LIQUID (69 TO 81 DEGREES K.).
 ARGON, VAPOR PRESSURE-LIQUID (84 TO 90 DEGREES K.), TRIPLE POINT.
 TABLE
- 249 HU, J. H., WHITE, D. AND JOHNSTON, H. L.
 CONDENSED GAS CALORIMETRY. V. HEAT CAPACITIES, LATENT HEATS AND ENTROPIES OF FLUORINE FROM 13 TO 85 DEGREES K., HEATS OF TRANSITION, FUSION, VAPORIZATION AND VAPOR PRESSURES OF THE LIQUID.
 J. AM. CHEM. SOC. VOL. 75, 5642-5 (1953)
 ALSO IN OHIO STATE UNIV. RESEARCH FOUNDATION, CRYOGENIC LAB., COLUMBUS TECH. REPT. NO. TR 283-23 (APR 1953) 11 P.
- FLUORINE, VAPOR PRESSURE-LIQUID (54 TO 89 DEGREES K.), HEAT CAPACITY-SOLID(ALPHA) (14 TO 45 DEGREES K.) AND SOLID(BETA) (45 TO 53 DEGREES K.) AND LIQUID (58 TO 81 DEGREES K.), SOLID-SOLID TRANSITION (42 TO 48 DEGREES K.), HEAT OF FUSION (51 TO 57 DEGREES K.), HEAT OF VAPORIZATION (85 DEGREES K.).
 TABLE
- 250 HULL, R. A., WILKINSON, K. R. AND WILKS, J.
 THE SPECIFIC HEAT OF LIQUID HELIUM AT TEMPERATURES BETWEEN 0.6 AND 1.6 DEGREES K.
 PROC. PHYS. SOC. (LONDON) VOL. 64A, 379-88 (1951)
- HELUM, HEAT CAPACITY-LIQUID (0.4 TO 1.6 DEGREES K.).
 TABLE, GRAPH
- 251 HUNTER, M. A.
 THE MOLECULAR AGGREGATION OF LIQUEFIED GASES.
 J. PHYS. CHEM. VOL. 10, 330-60 (1906)
- METHANE, VAPOR PRESSURE-SOLID (80 TO 88 DEGREES K.) AND LIQUID (96 TO 110 DEGREES K.) EQUATION FOR SOLID AND LIQUID VAPOR PRESSURE. THE MEASURED VALUES FOR SOLID VAPOR PRESSURE ARE NOT GIVEN, BUT VALUES ARE CALCULATED USING AN EMPIRICAL EQUATION. NORMAL BOILING AND MELTING POINTS ARE ESTIMATED.
 TABLE, EQUATION
- 252 INGLIS, J. K. H. AND COATES, J. E.
 THE DENSITIES OF LIQUID NITROGEN AND LIQUID OXYGEN AND THEIR MIXTURES.
 J. CHEM. SOC. (LONDON) VOL. 89, 886-9 (1906)
- OXYGEN, DENSITY-LIQUID (75 AND 79 DEGREES K.).
 NITROGEN, DENSITY-LIQUID (75 AND 79 DEGREES K.).
 TABLE

253 JARRY, R. L.

STUDIES OF THE PROPERTIES OF LIQUID FLUORINE, NITROGEN TRIFLUORIDE AND

PECHLORYL FLUORIDE.

PENN. SALT MFG. CO., WYNDMOOR, PA., REPT. NO. AFOSR TR-56-50

(DEC 1956)

ASTIA AD 110 311

FLUORINE, DENSITY-LIQUID (67 TO 103 DEGREES K.), EQUATION FOR LIQUID
DENSITY.

TABLE, EQUATION

254 JARRY, R. L. AND MILLER, H. C.

THE DENSITY OF LIQUID FLUORINE BETWEEN 67 AND 103 DEGREES K.

J. AM. CHEM. SOC. VOL. 78, 1552-3 (1956)

ALSO IN PENNSYLVANIA SALT MFG. CO., WHITEMARSH RESEARCH LAB., TECH. NOTE

ORS-TN-55-286 (NOV 1955)

ASTIA AD 77 193

FLUORINE, DENSITY-LIQUID (66 TO 103 DEGREES K.), EQUATION FOR LIQUID
DENSITY, APPEARS TO BE THE SAME AS NUMBER 253 ABOVE.

TABLE, EQUATION

255 JOHNS, T. F.

VAPOUR PRESSURE RATIO OF $^{12}\text{C}^{16}\text{O}$ AND $^{13}\text{C}^{16}\text{O}$.

PROC. PHYS. SOC. VOL. 66, 808-09 (1953)

CARBON MONOXIDE (VARIOUS ISOTOPIC MIXTURES), VAPOR PRESSURE-LIQUID (66 TO
77 DEGREES K.) AND SOLID BETA (62 TO 66 DEGREES K.), EQUATIONS FOR LIQUID
AND SOLID VAPOR PRESSURE. THE GRAPH OF P VS. T SHOWS MELTING POINT AND
SOLID ALPHA AND BETA TRANSITIONS FOR VARIOUS MIXTURES. A MORE COMPLETE
DESCRIPTION OF THIS WORK IS PRESENTED IN NUMBER 256 BELOW.
GRAPH, EQUATION

256 JOHNS, T. F.

VAPOUR PRESSURE DIFFERENCES BETWEEN SOME OF THE ISOTOPIC SPECIES OF
CARBON MONOXIDE, METHANE AND OXYGEN.

ATOMIC ENERGY RESEARCH ESTAB. (GT. BRIT.) GP/R-2166 53PP. (1957)

ASTIA AD 156458

CARBON MONOXIDE (VARIOUS ISOTOPIC MIXTURES), VAPOR PRESSURE DIFFERENCES-
LIQUID (68 TO 81 DEGREES K.) AND SOLID (61 TO 68 DEGREES K.), MELTING
PRESSURE (68 DEGREES K.), TRANSITION TEMPERATURE-SOLID ALPHA TO SOLID
BETA (61 DEGREES K.), EQUATIONS FOR LIQUID AND SOLID VAPOR PRESSURE.
METHANE (VARIOUS ISOTOPIC MIXTURES), VAPOR PRESSURE DIFFERENCES-LIQUID
(91 TO 105 DEGREES K.) AND SOLID (81 TO 91 DEGREES K.), MELTING PRESSURE
(91 DEGREES K.), EQUATIONS FOR LIQUID AND SOLID VAPOR PRESSURE.
OXYGEN (VARIOUS ISOTOPIC MIXTURES), VAPOR PRESSURE DIFFERENCES-LIQUID
(65 TO 89 DEGREES K.), EQUATION FOR LIQUID VAPOR PRESSURE.
NO TEMPERATURE MEASUREMENTS WERE MADE. TEMPERATURE WAS DEDUCED FROM
KNOWN P-T RELATIONS FOR REFERENCE SAMPLE.
TABLE, GRAPH

257 JOHNS, T. F.

VAPOUR PRESSURE RATIOS OF NITROGEN (ISOTOPES 14 AND 15).

PROC. PHYS. SOC. (LONDON) VOL. 71, 701-3 (1958)

NITROGEN (ISOTOPES 14 AND 15), VAPOR PRESSURE (NO TEMPERATURE GIVEN).
VAPOR PRESSURE DIFFERENCE BETWEEN ISOTOPIC VARIATIONS AND A REFERENCE
SAMPLE.

GRAPHICAL DATA ONLY

- 258 JOHNSTON, H. L., CLARKE, J. T., RIFKIN, E. B. AND KERR, E. C.
 CONDENSED GAS CALORIMETRY. I. HEAT CAPACITIES, LATENT HEATS, AND
 ENTROPIES OF PURE PARA-HYDROGEN FROM 12.7 TO 20.3 DEGREES K. DESCRIPTION
 OF THE CONDENSED GAS CALORIMETER IN USE IN THE CRYOGENIC LABORATORY OF
 THE OHIO STATE UNIVERSITY.
J. AM. CHEM. SOC. VOL. 72, 3933-38 (1950)
- PARAHYDROGEN, HEAT CAPACITY-SOLID (13 TO 14 DEGREES K.) AND LIQUID (14 TO
 19 DEGREES K.), TRIPLE POINT, HEAT OF FUSION (13 TO 15 DEGREES K.),
 HEAT OF VAPORIZATION (20 DEGREES K.), NORMAL BOILING POINT.
 TABLE
- 259 JONES, G. O. AND WALKER, P. A.
 THE DIAGRAM OF STATE AND SPECIFIC HEATS OF LIQUID ARGON.
BULL. INST. INTERN. FROID ANNEXE 1955-3, 321-23 (PRESENTED AT CONF. DE
 PHYSIQUE DES BASSES TEMPERATURE, PARIS, SEPT. 2-8, 1955)
- ARGON, HEAT CAPACITY-LIQUID (120 TO 150 DEGREES K.), THE SPECIFIC HEATS
 WERE MEASURED ALONG ISOBARS NEAR CRITICAL PRESSURE, SO THAT MOST OF THE
 VALUES ARE IN THE LIQUID REGION, HOWEVER, A P-T DIAGRAM IS INCLUDED.
 GRAPHICAL DATA ONLY
- 260 JONES, G. O. AND WALKER, P. A.
 SPECIFIC HEATS OF FLUID ARGON NEAR THE CRITICAL POINT.
PROC. PHYS. SOC. (LONDON) VOL. B69, 1348-9 (1956)
- ARGON, HEAT CAPACITY-LIQUID (135 TO 175 DEGREES K.), HEAT CAPACITY
 MEASUREMENTS WERE TAKEN DIRECTLY ACROSS THE CO-EXISTENCE CURVE IN CERTAIN
 CASES.
 GRAPHICAL DATA ONLY
- 261 JONES, M. L.
 THERMODYNAMIC PROPERTIES OF METHANE AND NITROGEN AT LOW TEMPERATURES
 AND HIGH PRESSURES.
MICHIGAN UNIV., ANN ARBOR, PH. D. THESIS (1962) 182 P.
- METHANE, HEAT CAPACITY-LIQUID (160 TO 190 DEGREES K.), HEAT OF
 VAPORIZATION (160 TO 170 DEGREES K.).
 NITROGEN, HEAT CAPACITY-LIQUID (116 TO 120 DEGREES K.), HEAT OF
 VAPORIZATION (120 TO 125 DEGREES K.).
 TABLE, EQUATION, GRAPH
- 262 JORDAN, T. H., STREIB, W. E., SMITH, G. W. AND LIPSCOMB, W. H.
 SINGLE-CRYSTAL STUDIES OF BETA-FLUORINE AND GAMMA-OXYGEN.
ACTA CRYST. VOL. 17, 777-8 (JUN 1964)
- FLUORINE, SOLID-SOLID TRANSITION (ALPHA TO BETA) (45.5 DEGREES K.).
 X-RAY DIFFRACTION DATA.
 TABLE (ONE TABULAR VALUE)

- 263 JUSTI, E.
 UBER DIE TRIPELPUNKTE DES STICKSTOFFS UND DES SAUERSTOFFS ALS FESTPUNKTE
 DER TEMPERATURSKALA.
 (THE TRIPLE POINTS OF NITROGEN AND OXYGEN OR FIXED POINTS ON THE
 TEMPERATURE SCALE.)
 ANN. PHYSIK VOL. 10, 983-92 (1931)

NITROGEN, TRIPLE POINT.
 OXYGEN, TRIPLE POINT.
 TABLE
 GERMAN

- 264 KAISCHEW, R. AND SIMON, F.
 SOME THERMAL PROPERTIES OF CONDENSED HELIUM.
 NATURE VOL. 133, 460 (1934)

HELIUM, DENSITY-SOLID (3.6 AND 4.0 DEGREES K.), HEAT OF FUSION (3.4 AND
 4.0 DEGREES K.).
 TABLE

- 265 KANDA, E.
 STUDIES ON FLUORINE AT LOW TEMPERATURES. VII. DETERMINATION OF DIELECTRIC
 CONSTANTS OF CONDENSED GASES.
 BULL. CHEM. SOC. JAPAN VOL. 12, 473-9 (1937)

OXYGEN, DENSITY-LIQUID (60 TO 88 DEGREES K.).
 FLUORINE, DENSITY-LIQUID (57 TO 83 DEGREES K.).
 TABLE

- 266 KANDA, E.
 STUDIES ON FLUORINE AT LOW TEMPERATURES. VIII. DETERMINATION OF MOLECULAR
 HEAT, HEAT OF FUSION OF CONDENSED FLUORINE AND THE ENTROPY OF FLUORINE.
 BULL. CHEM. SOC. JAPAN VOL. 12, 511-20 (1937)

FLUORINE, HEAT CAPACITY-SOLID (15 TO 54 DEGREES K.) AND LIQUID (57 TO 83
 DEGREES K.), HEAT OF FUSION (55 DEGREES K.).
 OXYGEN, SOLID-SOLID TRANSITION (SOLID III TO SOLID II) (24 DEGREES K.),
 SOLID II TO SOLID I (43 DEGREES K.), MELTING LINE (54 DEGREES K.).
 TABLE

- 267 KARWAT, E.
 DER DAMPFDRUCK DES FESTEN CHLORWASSERSTOFFS, METHANS UND AMMONIAKS.
 (THE VAPOR PRESSURE OF SOLID HYDROGEN CHLORIDE, METHANE AND AMMONIA.)
 Z. PHYSIK. CHEM. VOL. 112, 486-90 (1924)

METHANE, VAPOR PRESSURE-SOLID (77 TO 87 DEGREES K.), EQUATION FOR SOLID
 VAPOR PRESSURE.
 TABLE, EQUATION

- 268 KEESOM, W. H.
 THE HEAT OF VAPORIZATION OF HYDROGEN.
 COMMUNIS. PHYS. LAB. UNIV. LEIDEN NO. 137E (1911)
 ALSO IN HANDELINGEN VAN HET 13 DE NED. NAT. EN GENEESK CONGRES, APR.
 1911, 181-86
- HYDROGEN, HEAT OF VAPORIZATION (NO TEMPERATURE GIVEN), PRESSURE VARIED
 FROM 121 TO 777 MM HG. ONE VALUE IS AT 761 MM HG.
 OXYGEN, HEAT OF VAPORIZATION (90 DEGREES K.).
 TABLE

- 269 KEESOM, W. H.
SOLID HELIUM.
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 184B (1926)
HELIUM, MELTING LINE (1.2 TO 4.2 DEGREES K.).
TABLE, GRAPH
- 270 KEESOM, W. H.
SUR LES CHALEURS SPECIFIQUES DE L'HELIUM SOLIDE ET LIQUIDE ET LA CHALEUR DE FUSION DE L'HELIUM.
(THE SPECIFIC HEAT OF SOLID AND LIQUID HELIUM AND THE HEAT OF FUSION OF HELIUM.)
P. 148-50 IN PROC. INTERN. CONGR. REFRIG., 7 TH, THE HAGUE-AMSTERDAM (1936)
HELIOUM, HEAT CAPACITY-SOLID AND LIQUID (2 TO 4 DEGREES K.), DENSITY-SOLID AND LIQUID (2 TO 4 DEGREES K.), HEAT OF FUSION (2.5 TO 3.5 DEGREES K.).
GRAPHICAL DATA ONLY
FRENCH
- 271 KEESOM, W. H. AND BIJL, A.
DETERMINATION OF THE VAPOUR PRESSURES OF LIQUID NITROGEN BELOW ONE ATMOSPHERE AND OF SOLID BETA NITROGEN. BOILING POINT AND TRIPLE POINT OF NITROGEN.
COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 245D (1937)
ALSO IN PHYSICA VOL. 4, 305-10 (1937)
NITROGEN, VAPOR PRESSURE-SOLID BETA (53 TO 63 DEGREES K.), AND LIQUID (64 TO 77 DEGREES K.), TRIPLE POINT, NORMAL BOILING POINT, EQUATIONS FOR SOLID AND LIQUID VAPOR PRESSURE.
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- 272 KEESOM, W. H., BIJL, A., AND VAN DER HORST, H.
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COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 217A (1931)
ALSO IN PROC. KON. AKAD. AMSTERDAM VOL. 34, 1223 (1931)
HYDROGEN (NORMAL), VAPOR PRESSURE-LIQUID (15 TO 20 DEGREES K.), EQUATION FOR LIQUID VAPOR PRESSURE.
PARAHYDROGEN, VAPOR PRESSURE-LIQUID (15 TO 20 DEGREES K.), EQUATION FOR LIQUID VAPOR PRESSURE. A SERIES OF MEASUREMENTS WERE CONDUCTED NEAR THE NORMAL BOILING POINT IN ORDER TO DETERMINE THE NORMAL BOILING POINT.
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- 273 KEESOM, W. H. AND CLUSIUS, K.
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COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 216B (1932)
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HELIOUM-4, LAMBDA TRANSITION (HE I TO HE III) (1.9 TO 2.2 DEGREES K.).
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- 274 KEESOM, W. H. AND CLUSIUS, K.
 UEBER DIE SPEZIFISCHE WARME DES FLUSSIGEN HELIUMS.
 (CONCERNING THE SPECIFIC HEAT OF LIQUID HELIUM.)
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 219E (1932)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 35, 307 (1932)
- HELUM, HEAT CAPACITY-LIQUID (1 TO 4 DEGREES K.).
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- 275 KEESOM, W. H. AND DAMMERS, B. G.
 ON THE CONSTRUCTION OF PLATINUM THERMOMETERS AND THE DETERMINATION OF
 THEIR BASIC POINTS.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 239D (1935)
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- OXYGEN, NORMAL BOILING POINT. A SINGLE DETERMINATION OF THE NORMAL
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- 276 KEESOM, W. H., DE SMEET, J. AND MOY, H. H.
 CRYSTAL STRUCTURE OF PARA HYDROGEN AT LIQUID HELIUM TEMPERATURES.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 209D (1930)
- PARAHYDROGEN, DENSITY-SOLID (APPROXIMATELY 2 DEGREES K.), ESTIMATED FROM
 X-RAY ANALYSIS OF CRYSTAL STRUCTURE.
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- 277 KEESOM, W. H. AND HAANTJES, J.
 THE VAPOUR PRESSURE OF NEON AT LIQUID HYDROGEN TEMPERATURES.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 235C (1935)
 ALSO IN PHYSICA VOL. 2, 460-2 (1935)
- NEON, VAPOR PRESSURE-SOLID (15 TO 20 DEGREES K.), EQUATION FOR SOLID
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- 278 KEESOM, W. H. AND HAANTJES, J.
 VAPOUR PRESSURES OF NEON OF DIFFERENT ISOTOPIC COMPOSITIONS.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN 239C (1935)
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- NEON (VARIOUS ISOTOPIC MIXTURES), VAPOR PRESSURE-SOLID (19 TO 24
 DEGREES K.) AND LIQUID (25 TO 27 DEGREES K.), EQUATION FOR SOLID VAPOR
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- 279 KEESOM, W. H. AND KEESOM, A. P.
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 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 221D (1932)
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- HELUM-4, HEAT CAPACITY-LIQUID I (2.2 TO 3 DEGREES K.) AND LIQUID II (1.3
 TO 2.2 DEGREES K.).
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- 280 KEESOM, W. H. AND KEESOM, A. P.
 ISOPYCNALS OF LIQUID HELIUM. II.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 224E (1933)
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- HELUM-4, MELTING PRESSURE (SOLID TO LIQUID II) (1.2 TO 1.4 DEGREES K.),
 INCLUDING DETERMINATION (BY EXTRAPOLATION) OF THE TRIPLE POINT, I.E.,
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- 281 KEESOM, W. H. AND KEESOM, A. P.
 NEW MEASUREMENTS ON THE SPECIFIC HEAT OF LIQUID HELIUM.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 235D (1935)
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- HELUM-4, LAMBDA TRANSITION (LIQUID I TO LIQUID II) (2.19 DEGREES K.),
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- 282 KEESOM, W. H. AND KEESOM, A. P.
 MEASUREMENTS CONCERNING THE SPECIFIC HEAT OF SOLID HELIUM AND THE MELTING
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 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 240B (1936)
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- HELUM, HEAT CAPACITY-SOLID (2 TO 4 DEGREES K.) AND LIQUID (2 TO 4
 DEGREES K.), DENSITY-SOLID (2 TO 4 DEGREES K.) AND LIQUID (2 TO 4
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- 283 KEESOM, W. H. AND LISMAN, J. H. C.
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 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 213E (1931)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 34, 598 (1931)
- HYDROGEN, MELTING PRESSURE (14 TO 25 DEGREES K.).
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- 284 KEESOM, W. H. AND LISMAN, J. H. C.
 LA COURBE DE FUSION DE L'HYDROGÈNE JUSQU'A 610 KG/SQ.CM.
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 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 221A (1932)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 35, 607 (1932)
- HYDROGEN, MELTING PRESSURE (14 TO 27 DEGREES K.).
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- 285 KEESOM, W. H. AND LISMAN, J. H. C.
 THE MELTING CURVE OF NEON TO 200 KG/SQ.CM.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 224B (1933)
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- NEON, MELTING PRESSURE (25 TO 28 DEGREES K.).
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- 286 KEESOM, W. H. AND LISMAN, J. H. C.
 THE MELTING CURVE OF NITROGEN TO 110 KG/SQ.CM.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 232B (1934)
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- NITROGEN, MELTING PRESSURE (63 TO 65 DEGREES K.).
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- 287 KEESOM, W. H. AND LISMAN, J. H. C.
 COURBES DE FUSION DES GAZ SOLIDIFIES.
 (FUSION CURVES OF SOLIDIFIED GASES.)
 P. 151-5 IN PROC. INTERN. CONGR. REFRIG. 7TH CONG. THE HAGUE-AMSTERDAM
 (1936)
- NEON, MELTING PRESSURE (25 TO 27 DEGREES K.).
 NITROGEN, MELTING PRESSURE (64 TO 66 DEGREES K.).
 OXYGEN, MELTING PRESSURE (55 TO 57 DEGREES K.).
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- 288 KEESOM, W. H. AND ONNES, H. K.
 THE SPECIFIC HEAT AT LOW TEMPERATURES. III. MEASUREMENTS OF THE SPECIFIC
 HEAT OF SOLID NITROGEN BETWEEN 14 DEGREES K AND THE TRIPLE POINT AND OF
 LIQUID NITROGEN BETWEEN THE TRIPLE POINT AND THE BOILING POINT.
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- NITROGEN, HEAT CAPACITY-SOLID (15 TO 62 DEGREES K) AND LIQUID (64 TO 76
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- 289 KEESOM, W. H. AND ONNES, H. K.
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 SOLID HYDROGEN AND ON THE HEAT OF FUSION OF HYDROGEN.
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- HYDROGEN, HEAT CAPACITY-SOLID (12 TO 13 DEGREES K.) AND LIQUID (15 TO 20
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- 290 KEESOM, W. H. AND TACONIS, K. W.
 ON THE STRUCTURE OF SOLID HELIUM.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 250 E (1938)
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- HELIUM, DENSITY-SOLID (1.45 DEGREES K.). CALCULATED FROM X-RAY
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- 291 KEESEM, W. H., VAN DER HORST, H. AND JANSEN, A. F. J.
NEW DETERMINATION OF THE NORMAL BOILING POINT OF OXYGEN.
COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 203B (1929)

OXYGEN, VAPOR PRESSURE-LIQUID (89 TO 90 DEGREES K.), EQUATION FOR LIQUID
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- 292 KEESEM, W. H., WEBER, S. AND NORGAARD, G.
NEW MEASUREMENTS ON THE VAPOUR PRESSURE CURVE OF LIQUID HELIUM. I.
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 202B (1929)
ALSO IN KONINKL. NED. AKAD. WETENSCHAP. PROC. VOL. 32, 864 (1929)

HELUM, VAPOR PRESSURE-LIQUID (1.7 TO 4.2 DEGREES K.).
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- 293 KEESEM, W. H., WEBER, S. AND SCHMIDT, G.
NEW MEASUREMENTS ON THE VAPOUR PRESSURE CURVE OF LIQUID HELIUM. II.
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 202C (1929)
ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 32, 1314 (1929)

HELIUM, VAPOR PRESSURE-LIQUID (0.8 TO 4.9 DEGREES K.), EQUATION FOR
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- 294 KEESEM, W. H. AND WESTMIJZE, W. K.
THE SPECIFIC HEAT OF LIQUID HELIUM FROM 1.5 DEGREES K DOWN TO 0.4 DEGREES
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PHYSICA VOL. 8, NO. 9, 1044 (1941)

HELIUM, HEAT CAPACITY-LIQUID (0.6 TO 1.5 DEGREES K.). EQUATION FOR LIQUID
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EQUATION ONLY
- 295 KELLERS, C. F.
SPECIFIC HEAT OF LIQUID HELIUM NEAR THE LAMBDA POINT.
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HELIUM-4, HEAT CAPACITY-LIQUID (1.9 TO 2.35 DEGREES K.), LAMBDA
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- 296 KERR, E. C.
MOLAR VOLUMES OF LIQUID DEUTERIUM AND OF A 1 TO 1 MIXTURE OF TRITIUM AND
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J. AM. CHEM. SOC. VOL. 74, 824-5 (1952)

DEUTERIUM (ORTHO-PARA CONCENTRATION NOT SPECIFIED), DENSITY-LIQUID (20 TO
25 DEGREES K.), EQUATION FOR LIQUID DENSITY. THE DATA IS GIVEN FOR MOLAR
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- 297 KERR, E. C.
 ORTHOBARIC DENSITIES OF HELIUM-3, 1.3 DEGREES K TO 3.2 DEGREES K.
 PHYS. REV. VOL. 96, 551-54 (1954)
 HELIUM-3, DENSITY-LIQUID (1.3 TO 3.2 DEGREES K.) AND VAPOR (1.3 TO 3.2 DEGREES K.), CRITICAL DENSITY DETERMINED BY RECTILINEAR DIAMETER.
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- 298 KERR, E. C.
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 J. CHEM. PHYS. VOL. 26, 511-14 (1957)
 HELIUM-4, DENSITY-LIQUID (1.2 TO 4.3 DEGREES K.), EQUATION FOR LIQUID DENSITY. INCLUDES POINTS IN BOTH HE I AND HE II REGIONS. THE CRITICAL DENSITY WAS DETERMINED BY RECTILINEAR DIAMETER.
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- 299 KERR, E. C., RIFKIN, E. B., JOHNSTON, H. L. AND CLARKE, J. T.
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- 300 KERR, E. C. AND TAYLOR, R. D.
 MOLAR VOLUME AND EXPANSION COEFFICIENT OF LIQUID HELIUM-3.
 ANN. PHYS. (N.Y.) VOL. 20, 450-63 (1962)
 HELIUM-3, DENSITY-LIQUID (0.16 TO 1.8 DEGREES K.), EQUATION FOR LIQUID DENSITY.
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- 301 KERR, E. C. AND TAYLOR, R. D.
 THE MOLAR VOLUME AND EXPANSION COEFFICIENT OF LIQUID HELIUM-4.
 ANN. PHYS. (N.Y.) VOL. 26, NO. 2, 292-306 (1964)
 HELIUM-4, DENSITY-LIQUID (0.05 TO 2.8 DEGREES K. INCLUDING THE LAMBDA POINT), EQUATION FOR LIQUID DENSITY.
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- 302 KEYES, F. G., TAYLOR, R. S., AND SMITH, L. B.
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 J. MATH. PHYS. VOL. 1, 211-242 (1922)
 METHANE, VAPOR PRESSURE-LIQUID (97 TO 191 DEGREES K.), DENSITY-LIQUID (100 TO 185 DEGREES K.), CRITICAL TEMPERATURE AND PRESSURE, CRITICAL DENSITY CALCULATED BY USE OF RECTILINEAR DIAMETER. EQUATION FOR LIQUID VAPOR PRESSURE, VAPOR DENSITY CALCULATED FROM EQUATION OF STATE.
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303 KEYES, F. G., TOWNSHEND, B. AND YOUNG, L. H.
 THE ESTABLISHING OF THE ABSOLUTE TEMPERATURE SCALE BELOW THE MELTING
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 J. MATH. PHYS. VOL. 1, 243-312 (1922)

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304 KIDDER, J. N.
 DENSITY MEASUREMENTS IN SOLID HELIUM 4.
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305 KILNER, S. B., RANDOLPH, C. L. AND GILLESPIE, R. W.
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 J. AM. CHEM. SOC. VOL. 74, 1086-7 (1952)

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306 KIRSCHENBAUM, J. AND UREY, H. C.
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 TRIDEUTEROAMMONIA.
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 NITROGEN (NORMALLY OCCURRING NITROGEN AND NITROGEN WITH 34.6 PERCENT
 NITROGEN-15), VAPOR PRESSURE-LIQUID (64 TO 75 DEGREES K.), TRIPLE POINT,
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307 KISTEMAKER, J.
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 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 269C (1946)
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308 KLIPPING, G. AND MASCHER, W.
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 KALTFLÄCHE.
 (VACUUM PRODUCTION BY CONDENSATION ON LOW TEMPERATURE SURFACE. II.
 THE CONDENSATION OF NITROGEN AND HYDROGEN ON A WELL DEFINED COLD SURFACE)
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 NITROGEN, VAPOR PRESSURE-SOLID (22 TO 29 DEGREES K.).
 HYDROGEN, VAPOR PRESSURE-SOLID (3.3 TO 4.5 DEGREES K.).
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309 KNAAP, H. F. P., KNOESTER, M. AND BEENAKKER, J. J. M.
 THE VOLUME CHANGE ON MIXING FOR SEVERAL LIQUID SYSTEMS AND THE
 DIFFERENCE IN MOLEAR VOLUME BETWEEN THE ORTHO AND PARA MODIFICATIONS OF
 THE HYDROGENIC MOLECULES.
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HYDROGEN (NORMAL AND PARA), DENSITY-LIQUID (20.4 DEGREES K.).
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310 KOGAN, V. S., LAZAREV, B. G. AND BULATOVA, R. F.
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 SOVIET PHYS. JETP VOL. 4, 593-4 (1957)
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DEUTERIUM, DENSITY-SOLID (4 DEGREES K.).
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311 KOSTRIUKOVA, M. O.
 SPECIFIC HEAT OF SOLID OXYGEN BETWEEN 20 DEGREES AND 4 DEGREES K.
 SOVIET PHYS. JETP VOL. 3, 771-2 (1956)
 TRANSLATION FROM ZHUR. EKSPTL. I TEORET. FIZ. VOL. 30, 1162-4 (1956)

OXYGEN, HEAT CAPACITY-SOLID (4 TO 20 DEGREES K.).
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312 KOSTRIUKOVA, M. O. AND STRELKOV, P. G.
 SPECIFIC HEAT OF SOLID OXYGEN BELOW 4 DEGREES K.
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OXYGEN, HEAT CAPACITY-SOLID (1.7 TO 3.8 DEGREES K.).
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313 KRAMERS, H. C.
 SOME PROPERTIES OF LIQUID HELIUM BELOW 1 DEGREE K. IIIA-IIIB.
 KONINKL. NED. AKAD. WETENSCHAP. PROC. VOL. B58, 386-400 (1955)

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314 KRAMERS, H. C., WASSCHER, J. D. AND GORTER, C. J.
 THE SPECIFIC HEAT OF LIQUID HELIUM BETWEEN 0.25 AND 1.9 DEGREES K.
 COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 288C (1952)
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HELIUM-II, HEAT CAPACITY-LIQUID (0.25 TO 1.9 DEGREES K.).
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- 315 KRUIS, H. A., POPP, L. AND CLUSIUS, K.
 UBER UMWANDLUNGEN IN FESTEN HYDRIDEN UND DEUTERIDEN.
 (ON TRANSITIONS IN SOLID HYDRIDES AND DEUTERIDES.)
Z. ELEKTROCHEM. VOL. 43, 664-6 (1937)
- METHANE, SOLID-SOLID TRANSITION (ALPHA TO BETA) (20.4 DEGREES K.),
 HEAT OF TRANSITION (ALPHA TO BETA), MELTING TEMPERATURE, TRIPLE POINT.
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- 316 KUENEN, J. P. AND CLARK, A. L.
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COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 150B (1917)
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WETENSCHAP. AMSTERDAM VOL. 25, 1087-96 (1917)
- AIR, VAPOR PRESSURE-LIQUID (123 TO 133 DEGREES K.), DENSITY-LIQUID (127
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- 317 LADENBURG, A. AND KRUGEL, C.
 UEBER DIE MESSUNG TIEFER TEMPERATUREN. II.
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BER. DEUT. CHEM. GES. VOL. 33, 637-38 (1900)
- OXYGEN, NORMAL BOILING POINT.
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- 318 LAHR, P. H. AND EVERSOLE, W. G.
 COMPRESSION ISOTHERMS OF ARGON, KRYPTON, AND XENON THROUGH THE FREEZING
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J. CHEM. ENG. DATA VOL. 7, NO. 1, 42-7 (1962)
- ARGON, MELTING PRESSURE (137 TO 360 DEGREES K.), DENSITY-SOLID AND LIQUID
 (137 TO 360 DEGREES K.), EQUATION FOR SOLID VAPOR PRESSURE.
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- 319 LANGER, D. W. J.
 SOLIDIFICATION OF HELIUM AT 77 DEGREES K.
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 TABLE, GRAPH
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 LIQUID VAPOR PRESSURE. CRITICAL DENSITY CALCULATED BY MEANS OF
 RECTILINEAR DIAMETER.
 TABLE, EQUATION, GRAPH
- 324 LEWIS, G. N. AND HANSON, W. T.
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 (18.65 DEGREES K.). THE DATA IS OF A VERY PRELIMINARY NATURE, ACCORDING
 TO THE AUTHORS.
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 20 DEGREES K.), TRIPLE POINT. THIS IS A BRIEF PRESENTATION OF THE
 MEASUREMENTS REPORTED IN NUMBER 326 BELOW.
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- 326 LEWIS, G. N. AND HANSON, W. T.
 THE VAPOR PRESSURE OF SOLID AND LIQUID DEUTERIUM AND THE HEATS OF
 SUBLIMATION, OF FUSION AND OF VAPORIZATION.
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 VAPORIZATION AND FUSION ARE REPORTED. THESE MEASUREMENTS HAVE BEEN
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- 327 LIBBY, W. F. AND BARTER, C. A.
 VAPOR PRESSURES OF THE TRITIUM LIQUID HYDROGENS. DEPENDENCE OF HYDROGEN
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 THE MELTING-CURVE OF OXYGEN.
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 TABLE, EQUATION, GRAPH
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 VAPOR PRESSURE OF LIQUID HELIUM AT THE LAMBDA POINT.
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 TABLE
- 331 LOUNASMAA, O. V.
 THE SPECIFIC HEAT AT CONSTANT VOLUME, THE ENTROPY, THE INTERNAL ENERGY,
 AND THE FREE ENERGY OF LIQUID HELIUM-4 BETWEEN 1.2 AND 2.9 DEGREES K.
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 ACCURATE.
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- 332 LOUNASMAA, O. V. AND KAUNISTO, L.
 DIRECT MEASUREMENTS OF THE PARTIAL DERIVATIVE OF P WITH RESPECT TO T AT
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 THE LAMBDA CURVE.
 TABLE, GRAPH
- 333 LOUNASMAA, O. V. AND KOJO, E.
 THE SPECIFIC HEAT ($V=CONSTANT$) OF LIQUID HELIUM NEAR THE LAMBDA-CURVE AT
 VARIOUS DENSITIES.
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 CURVE DATA IS IN THE FORM OF P-T. A SHORT VERSION OF THIS ARTICLE IS
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 TABLE, GRAPH

334 LOUNASMAA, O. V. AND KOJO, E.
 THE SPECIFIC HEAT ($V = \text{CONSTANT}$) OF LIQUID HELIUM NEAR THE LAMBDA-CURVE
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 DATA AS NUMBER 333 ABOVE BUT DOES NOT HAVE TABULAR DATA.
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 ON THE LAMBDA POINT IN LIQUID HELIUM.
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 HELIUM-4, LAMBDA TEMPERATURE (2.175 DEGREES K.). LAMBDA TEMPERATURE WAS
 DETERMINED BY DISCONTINUITY IN DIELECTRIC CONSTANT.
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 OXYGEN, DENSITY-LIQUID (77 DEGREES K.).
 TABLE

337 MARKHAM, A. H.
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 TABLE, GRAPH

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 HELIUM-4, HEAT CAPACITY-LIQUID (0.7 TO 1.5 DEGREES K.).
 TABLE

339 MARTINEZ, J. P. AND ONNES, H. K.
 LA MESURE DES TEMPERATURES TRES BASSES. XXXI. TENSIONS DE VAPEUR DE
 L'HYDROGENE ET QUELQUES NOUVELLES DETERMINATIONS THERMOMETRIQUES DANS LE
 DOMAINE DE L'HYDROGENE LIQUIDE.
 (MEASUREMENT OF VERY LOW TEMPERATURES. XXXI. VAPOR PRESSURE OF HYDROGEN
 AND SOME NEW THERMOMETRIC DETERMINATIONS IN THE REGION OF LIQUID
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 HYDROGEN, VAPOR PRESSURE-LIQUID (15 TO 21 DEGREES K.), EQUATION FOR
 LIQUID VAPOR PRESSURE.
 TABLE
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- 340 MATHIAS, E. AND CROMMELIN, C. A.
 SUR L'OXYDE DE CARBONE ET L'HELlUM.
 (CARBON MONOXIDE AND HELIUM.)
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 EQUATION FOR THE RECTILINEAR DIAMETER OF HELIUM IS ALSO INCLUDED.
 TABLE, EQUATION, GRAPH
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- 341 MATHIAS, E., CROMMELIN, C. A., BIJLEVELD, W. J. AND GRIGG, PH. P.
 LA COURBE DES DENSITES DU LIQUIDE ET DE LA VAPEUR SATURÉS ET LE DIAMÈTRE
 RECTILIGNE DE L'OXYDE DE CARBONE.
 (THE DENSITY CURVES FOR LIQUID AND SATURATED VAPOR AND THE RECTILINEAR
 DIAMETER FOR CARBON MONOXIDE.)
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 TABLE
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- 342 MATHIAS, E., CROMMELIN, C. A. AND ONNES, H. K.
 THE RECTILINEAR DIAMETER OF HYDROGEN.
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HYDROGEN, DENSITY-LIQUID (23 TO 33 DEGREES K.) AND VAPOR (23 TO 33 DEGREES K.), EQUATION FOR RECTILINEAR DIAMETER.
 TABLE, EQUATION, GRAPH

- 343 MATHIAS, E., CROMMELIN, C. A. AND ONNES, H. K.
 LE DIAMÈTRE RECTILIGNE DU NEON.
 (RECTILINEAR DIAMETER FOR NEON.)
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NEON, DENSITY-LIQUID (25 TO 43 DEGREES K.) AND VAPOR (25 TO 43 DEGREES K.)
 EQUATION FOR RECTILINEAR DIAMETER.
 TABLE, EQUATION
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- 344 MATHIAS, E., CROMMELIN, C. A., ONNES, H. K. AND SWALLOW, J. C.
 FURTHER EXPERIMENTS WITH LIQUID HELIUM. X. THE RECTILINEAR DIAMETER OF
 HELIUM.
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 TABLE, EQUATION

- 345 MATHIAS, E. AND ONNES, H. K.
 THE RECTILINEAR DIAMETER FOR OXYGEN.
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 DEGREES K.), EQUATION FOR RECTILINEAR DIAMETER.
 TABLE, EQUATION, GRAPH
- 346 MATHIAS, E., ONNES, H. K. AND CROMMELIN, C. A.
 ON THE RECTILINEAR DIAMETER FOR ARGON.
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 DEGREES K.), EQUATION FOR RECTILINEAR DIAMETER.
 TABLE, EQUATION, GRAPH
- 347 MATHIAS, E., ONNES, H. K. AND CROMMELIN, C. A.
 THE RECTILINEAR DIAMETER OF NITROGEN.
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- NITROGEN, DENSITY-LIQUID (65 TO 125 DEGREES K.) AND VAPOR (65 TO 125
 DEGREES K.). EQUATION FOR RECTILINEAR DIAMETER.
 TABLE, EQUATION, GRAPH
- 348 MC WILLIAMS, A. S.
 CALORIMETRIC MEASUREMENTS ON HELIUM 3 AND ON SOLID HELIUM 3 - HELIUM 4
 SOLUTIONS BELOW 1 DEGREE K.
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- HELIUM-3, HEAT CAPACITY-SOLID (0.1 TO 1.0 DEGREES K.), HEAT CAPACITY-
 LIQUID (0.06 TO 1.0 DEGREES K.).
 TABLE, GRAPH
- 349 MEGAW, H. K.
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 4.2 DEGREES K.
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 DEUTERIUM, DENSITY-SOLID (4.2 DEGREES K.). EXPANDED VERSION OF
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 TABLE, GRAPH

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 DENSITY AND COMPRESSIBILITY OF SOLID HYDROGEN AND DEUTERIUM AT 4.2
 DEGREES K.
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 DEUTERIUM, DENSITY-SOLID(4.2 DEGREES K.).
 SEE NUMBER 349 FOR EXPANDED VERSION.
 TABLE (1 VALUE FOR EACH AT 1 ATMOSPHERE.)
- 351 MENDELSSOHN, K., RUHEMANN, M. AND SIMON, F.
 DIE SPEZIFISCHEN WARMEN DES FESTEN WASSERSTOFFS BEI HELIUMTEMPERATUREN.
 (THE SPECIFIC HEATS OF SOLID HYDROGEN AT HELIUM TEMPERATURES.)
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 DEGREES K.)
 HYDROGEN (NORMAL), HEAT CAPACITY-SOLID (4 TO 8 DEGREES K.)
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 TABLE, GRAPH
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- 352 MESSERLY, G. H.
 TRIPLE POINT PRESSURE OF HYDROGEN.
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- HYDROGEN, TRIPLE POINT PRESSURE.
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- 353 MICHELS, A. AND PRINS, C.
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 REPRESENTATION OF THE RESULTS BY A LAW OF CORRESPONDING STATES.
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 TABLE, GRAPH
- 354 MICHELS, A., WASSENAAR, T., DE GRAAFF, W. AND PRINS, CHR.
 VAPOUR PRESSURE OF LIQUID NITROGEN.
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 LIQUID VAPOR PRESSURE.
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- 355 MICHELS, A., WASSENAAR, T., LEVELT, J. M. AND DE GRAAFF, W.
 COMPRESSIBILITY ISOTHERMS OF AIR AT TEMPERATURES BETWEEN -25 DEGREES C
 AND -155 DEGREES C AND AT DENSITIES UP TO 560 AMAGATS (PRESSURES UP TO
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 TO 132 DEGREES K.) AND VAPOR (118 TO 133 DEGREES K.).
 TABLE, GRAPH

356 MICHELS, A., WASSENAAR, T., SLUYTERS, K. AND DE GRAAFF, W.
 THE TRIPLE POINTS OF CARBON DIOXIDE AND OF ARGON AS FIXED POINTS FOR THE
 CALIBRATION OF THERMOMETERS.
 PHYSICA VOL. 23, 89-94 (1957)

ARGON, TRIPLE POINT.
 TABLE

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 THE VAPOUR PRESSURE OF CARBON MONOXIDE.
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CARBON MONOXIDE, VAPOR PRESSURE-LIQUID (93 TO 133 DEGREES K.), EQUATION
 FOR LIQUID VAPOR PRESSURE.
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358 MILLS, R. L. AND GRILLY, E. R.
 MELTING CURVES OF HELIUM-3, HELIUM-4, HYDROGEN, DEUTERIUM, NEON,
 NITROGEN, AND OXYGEN UP TO 3500 KILOGRAMS PER SQUARE CENTIMETER.
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 HELIUM-4, MELTING PRESSURE (2 TO 30 DEGREES K.).
 HYDROGEN, MELTING PRESSURE (19 TO 43 DEGREES K.).
 DEUTERIUM, MELTING PRESSURE (19 TO 43 DEGREES K.).
 NEON, MELTING PRESSURE (22 TO 60 DEGREES K.).
 NITROGEN, MELTING PRESSURE (62 TO 120 DEGREES K.).
 OXYGEN, MELTING PRESSURE (54 TO 80 DEGREES K.). NO TABULAR VALUES GIVEN
 ALTHOUGH AUTHORS STATE THAT 240 MELTING POINTS WERE MEASURED. CONSTANTS
 FOR EACH FLUID ARE GIVEN FOR SIMON MELTING EQUATION.
 EQUATION, GRAPH

359 MILLS, R. L. AND GRILLY, E. R.
 MELTING CURVES OF HYDROGEN, DEUTERIUM, AND TRITIUM UP TO 3500 KILOGRAMS
 PER SQUARE CENTIMETER.
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 LINE.
 TRITIUM, MELTING PRESSURE (21 TO 60 DEGREES K.), EQUATION FOR MELTING
 LINE.
 DEUTERIUM, MELTING PRESSURE (19 TO 60 DEGREES K.), EQUATION FOR MELTING
 LINE.
 EQUATION, GRAPH

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 THE VOLUME CHANGE ON MELTING OF HELIUM-3 AND HELIUM-4 UP TO 3500
 KG/SQ.CM.
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 TEMPERATURE GIVEN, 80 TO 3000 ATM.) AND LIQUID (NO TEMPERATURE GIVEN, 80
 TO 3000 ATM.). A PHASE DIAGRAM IS SHOWN FOR 50 TO 250 ATM.
 HELIUM-4, DENSITY-SOLID (NO TEMPERATURE GIVEN, 80 TO 3000 ATM.) AND
 LIQUID (NO TEMPERATURE GIVEN, 80 TO 3000 ATM.).
 TABLE, GRAPH

- 361 MILLS, R. L. AND GRILLY, E. R.
 P-V-T RELATIONS IN HELIUM 4 NEAR THE MELTING CURVE AND THE LAMBDA LINE.
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 MELTING (1.28 TO 2.0 DEGREES K.), EQUATION FOR MELTING PRESSURE.
 TABLE, GRAPH
- 362 MILLS, R. L., GRILLY, E. R. AND SYDORIAK, S. G.
 ANOMALOUS MELTING PROPERTIES OF HELIUM-3.
 ANN. PHYS. (N.Y.) VOL. 12, NO. 1, 41-55 (1961)
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 TO 1.2 DEGREES K.) AND LIQUID (0.33 TO 1.2 DEGREES K.). EQUATION FOR
 MELTING CURVE.
 TABLE, EQUATION, GRAPH
- 363 MILLS, R. L. AND SCHUCH, A. F.
 STRUCTURE OF THE GAMMA FORM OF SOLID HELIUM 4.
 P. 423-4 IN LOW TEMPERATURE PHYSICS, PROC. 8 TH INTERN. CONF. ON LOW
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- HELIUM-4, DENSITY-SOLID ALPHA AND GAMMA (NO DEFINITE TEMPERATURE GIVEN,
 BUT IT IS WITHIN THE RANGE OF THE GAMMA FORM).
 TABLE
- 364 MOESSEN, G. W.
 THE THERMODYNAMIC TEMPERATURE SCALE BELOW 90 DEGREES K. THE NORMAL
 BOILING POINT OF OXYGEN ON THE THERMODYNAMIC SCALE. THE NORMAL BOILING
 POINT OF NORMAL HYDROGEN ON THE THERMODYNAMIC SCALE.
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- OXYGEN, NORMAL BOILING POINT.
 HYDROGEN, NORMAL BOILING POINT.
 TABLE
- 365 MOESSEN, G. W., ASTON, J. G. AND ASCAH, R. G.
 THE THERMODYNAMIC TEMPERATURE SCALE BELOW 90 DEGREES K, THE NORMAL
 BOILING POINT OF NORMAL HYDROGEN.
 J. CHEM. PHYS. VOL. 22, 2096-97 (1954)
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- HYDROGEN (NORMAL), NORMAL BOILING POINT.
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- 366 MOISSAN, H. AND DEWAR, J.
 NOUVELLES EXPERIENCES SUR LA LIQUEFACTION DU FLUOR.
 (NEW EXPERIMENTS ON THE LIQUEFACTION OF FLUORINE.)
 COMPT. REND. VOL. 125, 505-11 (1897)
- FLUORINE, DENSITY-LIQUID (73 DEGREES K.). THE TEMPERATURE OF THE DENSITY
 MEASUREMENTS IS QUITE VAGUE.
 TABLE
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- 367 MULLINS, J. C., AND ZIEGLER, W. T.
 PHASE EQUILIBRIA IN THE ARGON-HELIUM AND ARGON-HYDROGEN SYSTEMS FROM
 68 DEGREES TO 108 DEGREES K. AND PRESSURES TO 120 ATMOSPHERES.
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- ARGON, MELTING PRESSURE (84 TO 85 DEGREES K.).
 TABLE, GRAPH
- 368 NARINSKII, G. B.
 EXPERIMENTAL DATA ON LIQUID-VAPOR EQUILIBRIUM IN THE OXYGEN-ARGON SYSTEM.
 KISLOROD, NO. 3, 9-16 (1957)
- ARGON, VAPOR PRESSURE-LIQUID (90 TO 120 DEGREES K.). EQUATION FOR LIQUID
 VAPOR PRESSURE.
 OXYGEN, VAPOR PRESSURE-LIQUID (90 TO 120 DEGREES K.). EQUATION FOR LIQUID
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- 369 NEWMAN, R. B.
 THE VAPOUR-LIQUID EQUILIBRIA OF BINARY MIXTURES OF HYDROGEN, HYDROGEN
 DEUTERIDE, AND DEUTERIUM.
 UNIV. OF BRISTOL, PH. D. THESIS (1954) 134 P.
- HYDROGEN (NORMAL), VAPOR PRESSURE-LIQUID (18 TO 28 DEGREES K.).
 DEUTERIUM (NORMAL), VAPOR PRESSURE-LIQUID (18 TO 28 DEGREES K.).
 HYDROGEN DEUTERIDE, VAPOR PRESSURE-LIQUID (18 TO 28 DEGREES K.).
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- 370 NEWMAN, R. B. AND JACKSON, L. C.
 THE P, T, X RELATIONSHIPS OF HYDROGEN PLUS HYDROGEN DEUTERIDE AND
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 TRANS. FARADAY SOC. VOL. 54, 1481-91 (1958)
- HYDROGEN (NORMAL), VAPOR PRESSURE-LIQUID (18 TO 29 DEGREES K.).
 DEUTERIUM (NORMAL), VAPOR PRESSURE-LIQUID (18 TO 29 DEGREES K.).
 HYDROGEN DEUTERIDE, VAPOR PRESSURE-LIQUID (18 TO 29 DEGREES K.).
 CORRESPONDING PRESSURE AND RESISTANCE MEASUREMENTS WERE MADE AT
 APPROXIMATELY ONE-HALF DEGREE INTERVALS BETWEEN 18 AND 28.5 DEGREES K.
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- 371 OLSZEWSKI, K.
 TEMPERATURE ET PRESSION CRITIQUE DE L'AIR. RELATION ENTRE LA TEMPERATURE
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 (CRITICAL TEMPERATURE AND PRESSURE OF AIR. RELATION BETWEEN THE
 TEMPERATURE OF THE AIR AND THE PRESSURE OF EVAPORATION.)
 COMPT. REND. VOL. 99, 184-6 (1884)
- AIR, VAPOR PRESSURE-LIQUID (68 TO 133 DEGREES K.), NORMAL BOILING POINT
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- 372 OLSZEWSKI, K.
 LIQUEFACTION ET SOLIDIFICATION DU FORMENE ET DU DEUTOXYDE D'AZOTE.
 (LIQUEFACTION AND SOLIDIFICATION OF METHANE AND NITROGEN DIOXIDE.)
 COMPT. REND. VOL. 100, 940-6 (1885)
 METHANE, VAPOR PRESSURE-LIQUID (91 TO 109 DEGREES K.) AND SOLID (71 TO
 87 DEGREES K.), CRITICAL POINT, NORMAL BOILING POINT.
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- 373 OLSZEWSKI, K.
 THE LIQUEFACTION AND SOLIDIFICATION OF ARGON.
 TRANS. ROY. SOC. (LONDON) VOL. A186, 253-7 (1895)
 ARGON, VAPOR PRESSURE-LIQUID (86 TO 152 DEGREES K.), MELTING TEMPERATURE
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- 374 OLSZEWSKI, K.
 DETERMINATION OF THE CRITICAL AND THE BOILING TEMPERATURE OF HYDROGEN.
 PHIL. MAG. VOL. 40, 202-10 (1895)
 HYDROGEN, CRITICAL TEMPERATURE, NORMAL BOILING POINT.
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- 375 OLSZEWSKI, K.
 DIE UBERFUHRUNG DES ARGONS IN DEN FLUSSIGEN UND FESTEN ZUSTAND.
 (THE CONVERSION OF ARGON IN THE LIQUID AND SOLID STATE.)
 Z. PHYSIK. CHEM. VOL. 16, 380-84 (1895)
 ARGON, VAPOR PRESSURE-LIQUID (134 TO 153 DEGREES K.), MELTING PRESSURE
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- 376 OLSZEWSKI, K.
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 ANN. PHYSIK VOL. 17, 986-93 (1905)
 HYDROGEN, CRITICAL TEMPERATURE AND PRESSURE.
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- 377 OLSZEWSKI, V.
 RELATION ENTRE LES TEMPERATURES ET LES PRESSIONS DU PROTOXYDE DE CARBONE
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 (RELATION BETWEEN TEMPERATURE AND PRESSURE OF LIQUID CARBON MONOXIDE.)
 COMPT. REND. VOL. 99, 706-07 (1884)
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- 378 ONNES, H. K.
 ISOTHERMS OF MONATOMIC ELEMENTS AND THEIR BINARY MIXTURES. IV. DATA
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 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 112 (1909)
 TRANSLATION FROM VERSLAG. GEWONE VERGADER. AFDEL. NATUURK. KONINKL. NED.
 AKAD. WETENSCHAP. VOL. 18, 168-72 (1909)
- HELIUM, CRITICAL PRESSURE.
 NEON, CRITICAL PRESSURE AND TRIPLE POINT PRESSURE.
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- 379 ONNES, H. K.
 FURTHER EXPERIMENTS WITH LIQUID HELIUM. A. ISOTHERMS OF MONATOMIC GASES
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 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 119 (1911)
 ALSO IN KONINKL. AKAD. WETENSCHAP. AMSTERDAM 1093-1113 (1911)
- HELIUM, VAPOR PRESSURE-LIQUID (1.5 TO 4.3 DEGREES K.), DENSITY-LIQUID
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- 380 ONNES, H. K.
 FURTHER EXPERIMENTS WITH LIQUID HELIUM. F. ISOTHERMS OF MONATOMIC GASES
 ETC. XII. THERMAL PROPERTIES OF HELIUM.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 124B (1911)
 ALSO IN VERSLAG. AFDEEL. NATUURK. KON. AKAD. WETENSCHAP.
 AMSTERDAM 793-9 (1911)
- HELIUM, VAPOR PRESSURE-LIQUID (4.3 TO 5.2 DEGREES K.), CRITICAL POINT.
 TABLE
- 381 ONNES, H. K. AND BOKS, J. D. A.
 FURTHER EXPERIMENTS WITH LIQUID HELIUM. U. ISOTHERMS OF MONATOMIC
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 DEGREES K. AND LOWER. V. THE VARIATION OF DENSITY OF LIQUID HELIUM BELOW
 THE BOILING POINT.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 170B (1924)
 ALSO IN PROC. INTERN. CONGR. REFRIG. 4TH CONGR. LONDON (1924)
- HELIUM, VAPOR PRESSURE-LIQUID (2.6 TO 4.2 DEGREES K.), DENSITY-LIQUID
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- 382 ONNES, H. K. AND BRAAK, C.
 ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XIII.
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 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 95E (1906)
 TRANSLATION FROM VERSLAG. AFDEL. NATUURK. KON. AKAD. WETENSCHAP.
 (AMSTERDAM) 349-60 (OCT 1906)
- HYDROGEN, VAPOR PRESSURE-LIQUID (NEAR MELTING POINT).
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383 ONNES, H. K. AND BRAAK, C.

ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XXI. ON THE STANDARDIZING OF TEMPERATURES BY MEANS OF BOILING POINTS OF PURE SUBSTANCES. THE DETERMINATION OF THE VAPOUR PRESSURE OF OXYGEN AT THREE TEMPERATURES. COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 107A (1908) TRANSLATION FROM VERSLAG GEWONE VERGADER. AFDEEL. NATUURK. KONINKL. AKAD. WETENSCHAP. AMSTERDAM 86-93 (1908)

OXYGEN, VAPOR PRESSURE-LIQUID (86.5 AND 86.6 DEGREES K.), ALSO INCLUDES SEVERAL VAPOR PRESSURE DETERMINATIONS NEAR THE NORMAL BOILING POINT. TABLE

384 ONNES, H. K. AND CROMMELIN, C. A.

ISOTHERMS OF MONATOMIC SUBSTANCES AND OF THEIR BINARY MIXTURES. XI. REMARKS UPON THE CRITICAL TEMPERATURE OF NEON AND UPON THE MELTING POINT OF OXYGEN. COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 121C (1911) TRANSLATION FROM VERSLAG GEWONE VERGADER. AFDEEL. NATUURK. KONINKL. AKAD. WETENSCHAP. AMSTERDAM VOL. 27, 73-4 (1911)

OXYGEN, MELTING POINT (55 DEGREES K.).
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385 ONNES, H. K. AND CROMMELIN, C. A.

ISOTHERMALS OF DI-ATOMIC SUBSTANCES AND THEIR MIXTURES XIII. LIQUID-DENSITIES OF HYDROGEN BETWEEN BOILING POINT AND TRIPLE POINT, CONTRACTION OF HYDROGEN ON FREEZING. COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 137A (1913) TRANSLATION FROM VERSLAG. GEWONE VERGADER. WIS- EN NATUURK. AFDEEL. KON. AKAD. WETENSCHAP. AMSTERDAM, 214-6 (1913)

HYDROGEN, DENSITY-LIQUID (15 TO 20 DEGREES K.) AND SOLID (11 DEGREES K.), EQUATION FOR LIQUID DENSITY. THE TRIPLE POINT DENSITY OF THE LIQUID WAS ALSO CALCULATED AND AN ESTIMATE WAS MADE OF THE CONTRACTION ON FREEZING BY ASSUMING THE MEASURED SOLID DENSITY AT 11 DEGREES K. TO BE THE SAME AS THE TRIPLE POINT DENSITY.
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386 ONNES, H. K. AND CROMMELIN, C. A.

ISOTHERMALS OF MONATOMIC GASES AND OF THEIR BINARY MIXTURES. XVII. ISOTHERMALS OF NEON AND PRELIMINARY DETERMINATIONS CONCERNING THE LIQUID CONDITION OF NEON. COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 147D (1915)
ALSO IN KONINKL. NED. AKAD. WETENSCHAP. PROC. VOL. 18, 515-20 (1916)

NEON, VAPOR PRESSURE-LIQUID (24 TO 27 DEGREES K.), DENSITY-LIQUID (24 TO 27 DEGREES K.), NORMAL BOILING POINT AND TRIPLE POINT. DATA IS OF A PRELIMINARY NATURE.
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387 ONNES, H. K., CROMMELIN, C. A. AND CATH, P. G.

ISOTHERMALS OF MON-ATOMIC SUBSTANCES AND THEIR BINARY MIXTURES. XVIII. A PRELIMINARY DETERMINATION OF THE CRITICAL POINT OF NEON. COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 151B (1917) TRANSLATION FROM VERSLAG. GEWONE VERGADER. WIS- EN NATUURK. AFDEEL. VOL. 25, 1224-8 (1917)
ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 19, 1058-62 (1917)

NEON, VAPOR PRESSURE-LIQUID (44 TO 45 DEGREES K.), CRITICAL POINT.
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- 388 ONNES, H. K., CROMMELIN, C. A. AND CATH, P. G.
 ISOTHERMALS OF DIATOMIC SUBSTANCES AND THEIR BINARY MIXTURES. XIX. A
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 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 151C (1917)
 TRANSLATION FROM VERSLAG GEWONE VERGADER. AFDEL NATUURK. KONINKL. NED.
 AKAD. WETENSCHAP. VOL. 26, 124-9 (MAY 1917)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 20, 1 (1917)
- HYDROGEN, VAPOR PRESSURE-LIQUID (32 TO 33 DEGREES K.), CRITICAL POINT.
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- 389 ONNES, H. K., DORSMAN, C. AND HOLST, G.
 ISOTHERMALS OF DIATOMIC SUBSTANCES AND THEIR BINARY MIXTURES. XV. VAPOUR-
 PRESSURES OF OXYGEN AND CRITICAL POINT OF OXYGEN AND NITROGEN.
 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 145B (1914)
 TRANSLATION FROM VERSLAG GEWONE VERGADER. AFDEL. NATUURK. KONINKL. AKAD.
 WETENSCHAP. AMSTERDAM 982-5 (1914)
 ALSO IN PROC. ACAD. SCI. AMSTERDAM VOL. 17, 950-3 (1915)
- OXYGEN, VAPOR PRESSURE-LIQUID (118 TO 154 DEGREES K.), CRITICAL POINT.
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- 390 ONNES, H. K. AND KEESOM, W. H.
 ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XXIII. VAPOR PRESSURES OF
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 COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 137D (1913)
 TRANSLATION FROM VERSLAG. GEWONE VERGADER. WIS- EN NATUURK. AFDEEL.
 KON. AKAD. WETENSCHAP. AMSTERDAM 389-93 (1913)
- HYDROGEN, VAPOR PRESSURE-LIQUID (14 TO 21 DEGREES K.), TRIPLE POINT.
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- 391 ONNES, H. K., AND MARTINEZ, J. P.
 PRESIONES DE VAPOR DEL HIDROGENO Y NUEVAS DETERMINACIONES EN LA REGION
 DEL HIDROGENO LIQUIDO.
 (VAPOR PRESSURE OF HYDROGEN AND NEW DETERMINATIONS IN THE LIQUID HYDROGEN
 REGION.)
 ANALES REAL SOC. ESPAN. FIS. QUIM. (MADRID) VOL. 20, 233-42 (1922)
- HYDROGEN, VAPOR PRESSURE-LIQUID (14 TO 21 DEGREES K.).
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- 392 ONNES, H. K. AND VAN GULIK, W.
 THE MELTING-CURVE OF HYDROGEN TO 55 KG/SQ.CM.
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- HYDROGEN, MELTING PRESSURE (14 TO 16 DEGREES K.).
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393 ONNES, H. K. AND WEBER, S.

FURTHER EXPERIMENTS WITH LIQUID HELIUM. O. ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XXV. THE DETERMINATION OF THE TEMPERATURES WHICH ARE OBTAINED WITH LIQUID HELIUM, ESPECIALLY IN CONNECTION WITH MEASUREMENTS OF THE VAPOUR PRESSURE OF HELIUM.

COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 147B (1915)

TRANSLATION FROM VERSLAG GEWONE VERGADER. WIS- EN NATUURK. AFDEEL. KON. AKAD. WETENSCHAP. AMSTERDAM 370-84 (1915)

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394 ORLOVA, M. P.

TEMPERATURE REPRODUCTION OF PHASE TRANSFORMATION IN SOLID OXYGEN. IZMERITEL'NAYA TEKH. VOL. 1961, NO. 2, 21-23 (1961)

OXYGEN, SOLID-SOLID TRANSITION (ALPHA TO BETA) (23.9 DEGREES K.) AND (BETA TO GAMMA) (43.8 DEGREES K.), TRIPLE POINT.

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395 OSBORNE, D. W., ABRAHAM, B. M. AND WEINSTOCK, B.

VAPOR PRESSURES OF HELIUM-3 AND OF HELIUM-3 - HELIUM-4 MIXTURES.

P. 48 IN PROC. INTERN. CONF. ON PHYSICS OF VERY LOW TEMPERATURES, MASS. INST. TECHNOL., CAMBRIDGE (SEPT 1949)

HELIUM-3, VAPOR PRESSURE-LIQUID (1.03 TO 3.45 DEGREES K.), EQUATION FOR LIQUID VAPOR PRESSURE.

EQUATION ONLY

396 OSBORNE, D. W., ABRAHAM, B. M. AND WEINSTOCK, B.

SOLIDIFICATION OF HELIUM-3.

PHYS. REV. VOL. 82, 263-4 (1951)

HELIUM-3, MELTING PRESSURE (1.02 TO 1.51 DEGREES K.), EQUATION FOR MELTING CURVE.

HELIUM-4, MELTING TEMPERATURE (1.09 DEGREES K.). ONE VALUE ONLY.

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397 OSBORNE, D. W., ABRAHAM, B. M. AND WEINSTOCK, B.

THE MELTING CURVE OF HELIUM-3.

PHYS. REV. VOL. 85, 715 (1952)

HELIUM-3, MELTING PRESSURE (0.16 TO 1.51 DEGREES K.), EQUATION FOR MELTING CURVE. THIS IS AN ABSTRACT OF A PAPER PRESENTED AT AN AMERICAN PHYSICAL SOCIETY MEETING. THE EQUATION FOR THE MELTING CURVE TO 0.5 DEGREES K. IS REPORTED, BUT NO ACCURACY IS GIVEN. BELOW 0.5 DEGREES K. THE PRESSURE RAPIDLY APPROACHES A CONSTANT VALUE OF 29.3 ATM.

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398 OSBORNE, D. W., ABRAHAM, B. M. AND WEINSTOCK, B.

THE HEAT CAPACITY AND ENTROPY OF LIQUID HELIUM-3 FROM 0.42 TO 1.06 DEGREES K.

PHYS. REV. VOL. 94, 202-3 (1954)

HELIUM-3, HEAT CAPACITY-LIQUID (0.42 TO 1.06 DEGREES K.), EQUATION FOR LIQUID HEAT CAPACITY. DATA IS IN THE FORM OF AN EQUATION.

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- 399 OSBORNE, D. W., ABRAHAM, B. M. AND WEINSTOCK, B.
 THERMODYNAMIC PROPERTIES OF LIQUID HELIUM-3 BETWEEN 0.23 AND 2 DEGREES K.
 BULL. INST. INTERN. FROID ANNEXE 1955-3, 26-9 (PRESENTED AT CONF. DE
 PHYSIQUE DES BASSES TEMPERATURE, PARIS, SEPT. 2-8, 1955)
- HELIUM-3, HEAT CAPACITY-LIQUID (0.23 TO 2.0 DEGREES K.).
 ARGON, TRIPLE POINT (83 DEGREES K.).
 GRAPHICAL DATA ONLY
- 400 PESHKOV, V. P.
 SUPERFLUIDITY OF HELIUM-3.
 SOVIET PHYS. JETP VOL. 19, NO. 4, 1023-25 (1964)
 TRANSLATION OF ZHUR. EKSPTL. I TEORET. FIZ. VOL. 46, 1510-13 (APR 1964)
- HELIUM-3, LIQUID I - LIQUID II TRANSITION (0.003 TO 0.005 DEGREES K.).
 DETERMINED BY MEANS OF SPECIFIC HEAT MEASUREMENT.
 ONE TABULAR VALUE, GRAPH
- 401 POOL, R. A. H., SHIELDS, B. D. C. AND STAVELEY, L. A. K.
 TRIPLE POINT OF ARGON AS A THERMOMETRIC FIXED POINT.
 NATURE VOL. 181, 831 (1958)
- ARGON, TRIPLE POINT PRESSURE AND TEMPERATURE.
 TABLE
- 402 PORTER, F. AND PERRY, J. H.
 HIGH VAPOR PRESSURES OF NITROGEN.
 J. AM. CHEM. SOC. VOL. 48, 2059-60 (1926)
- NITROGEN, VAPOR PRESSURE-LIQUID (90 TO 121 DEGREES K.), EQUATION FOR
 LIQUID VAPOR PRESSURE.
 TABLE, EQUATION
- 403 PRIKHOTKO, A. AND YAVNEL, A.
 INVESTIGATION OF SOLID MIXTURES OXYGEN-NITROGEN.
 ACTA PHYSICOCHIM. U. R. S. S. VOL. 11, 783-96 (1939)
- OXYGEN, SOLID-SOLID TRANSITION (ALPHA TO BETA), MELTING TEMPERATURE (55
 DEGREES K.).
 NITROGEN, MELTING TEMPERATURE (62.5 DEGREES K.).
 ONE VALUE IS GIVEN FOR EACH TRANSITION. VALUES OF THE PRESSURE AT
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- 404 RAMSAY, W. AND TRAVERS, M. W.
 II. ARGON AND ITS COMPANIONS.
 PHIL. TRANS. ROY. SOC. LONDON SER. A. VOL. 197, 47-91 (1901)
 ALSO IN Z. PHYSIK. CHEM. (LEIPZIG) VOL. 38, 641-89 (1901)
- ARGON, VAPOR PRESSURE-LIQUID (77 TO 156 DEGREES K.), DENSITY-LIQUID (88
 DEGREES K.).
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- 405 RIVES, J. E.
SOME THERMODYNAMIC PROPERTIES OF LIQUID HELIUM THREE BELOW 1.0 DEGREES ABSOLUTE.
DUKE UNIV., DURHAM, N. CAR., PH. D. THESIS (1961) 101 P.
- HELIUM-3, DENSITY-LIQUID (0.05 TO 1.3 DEGREES K.) (MEASURED VALUES OF THE DIELECTRIC CONSTANT WERE USED TO CALCULATE THE DENSITY BY MEANS OF THE CLAUSIUS-MOSOTTI RELATION).
TABLES, GRAPH
- 406 ROBERTS, T. R. AND SYDORIAK, S. G.
THE SPECIFIC HEAT OF LIQUID HELIUM-3.
PHYS. REV. VOL. 93, 1418 (1954)
- HELIUM-3, HEAT CAPACITY-LIQUID (0.54 TO 1.7 DEGREES K.).
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- 407 ROBERTS, T. R. AND SYDORIAK, S. G.
THERMODYNAMIC PROPERTIES OF LIQUID HELIUM THREE. I. THE SPECIFIC HEAT AND ENTROPY.
PHYS. REV. VOL. 98, 1672-8 (1955)
- HELIUM-3, HEAT CAPACITY-LIQUID (0.4 TO 2.4 DEGREES K.), EQUATION FOR LIQUID HEAT CAPACITY.
TABLE, EQUATION
- 408 ROBINSON, D. W.
THE PROPERTIES OF SOLID AND LIQUID HELIUM AT HIGH PRESSURES.
THESIS, OXFORD UNIVERSITY (1952)
COPY NOT AVAILABLE FOR INDEXING
- 409 ROBINSON, D. W.
AN EXPERIMENTAL DETERMINATION OF THE MELTING CURVES OF ARGON AND NITROGEN INTO THE 10,000 ATM. REGION.
PROC. ROY. SOC. (LONDON), VOL. A255, 393-405 (1954)
- ARGON, MELTING PRESSURE (83 TO 234 DEGREES K.).
NITROGEN, MELTING PRESSURE (63 TO 180 DEGREES K.).
TABLE, GRAPH
- 410 RODER, H. M., DILLER, D. E., WEBER, L. A. AND GOODWIN, R. D.
THE ORTHOBARIC DENSITIES OF PARAHYDROGEN, DERIVED HEATS OF VAPORIZATION, AND CRITICAL CONSTANTS.
CRYOGENICS VOL. 3, NO. 1, 16-22 (1963)
- PARAHYDROGEN, VAPOR PRESSURE-LIQUID (17 TO 33 DEGREES K.), DENSITY-LIQUID (17 TO 33 DEGREES K.) AND VAPOR (17 TO 33 DEGREES K.), EQUATION FOR LIQUID DENSITY, CRITICAL TEMPERATURE, PRESSURE AND DENSITY.
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- 411 ROGOVAYA, I. A. AND KAGANER, M. G.
THE COMPRESSIBILITY OF ARGON AT LOW TEMPERATURES UP TO 200 ATMOSPHERES.
RUSS. J. PHYS. CHEM. VOL. 35, 1049-50 (1961)
TRANSLATION FROM ZHUR. FIZ. KHM. VOL. 35, 2135-6 (1961)
- ARGON, VAPOR PRESSURE-LIQUID (144 DEGREES K.).
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- 412 ROTH, E.
 NOUVELLES DETERMINATIONS DES TENSIONS DE VAPEUR DES ISOTOPES DU NEON.
 (NEW DETERMINATION OF THE VAPOR PRESSURES OF THE ISOTOPES OF NEON.)
 COMM. ENERGIE AT. (FRANCE) RAPPT. NO. 1666 (1960) 109 PP REPR. FROM
 UNIVERSITY OF PARIS, PH. D. THESIS (1960)
- NEON (NEON 20, NEON 22 AND NORMAL NEON), VAPOR PRESSURE-SOLID (16 TO 24
 DEGREES K.) AND LIQUID (25 TO 30 DEGREES K.), TRIPLE POINT.
 EQUATION FOR LIQUID VAPOR PRESSURE FOR NEON-20 AND NEON 24.
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- 413 RUHEMANN, M.
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 (X-RAY INVESTIGATION OF SOLID NITROGEN AND OXYGEN.)
 Z. PHYSIK VOL. 76, 368-85 (1932)
- NITROGEN, DENSITY-SOLID BETA (APPROXIMATELY 39 DEGREES K.). X-RAY
 DIFFRACTION INVESTIGATION. DENSITY IS CALCULATED ONLY FOR BETA-NITROGEN
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- 414 RUHEMANN, M., LICHTER, A. AND KOMAROW, P.
 ZUSTANDSDIAGRAMME NIEDRIG SCHMELZENDER GEMICHE. II. DAS SCHMELZDIAGRAMM
 SAUERSTOFF-STICKSTOFF UND DAS ZUSTANDSDIAGRAMM STICKSTOFF-KOHLENOXYD.
 (THE PHASE DIAGRAMS OF LOW-MELTING MIXTURES. II. THE MELTING DIAGRAM OF
 OXYGEN-NITROGEN AND THE PHASE DIAGRAM OF NITROGEN-CARBON MONOXIDE.)
 PHYSIK Z. SOWJETUNION VOL. 8, 326-36 (1935)
- CARBON MONOXIDE, MELTING PRESSURE (68.2 DEGREES K.).
 NITROGEN, MELTING PRESSURE (54.1 DEGREES K.), SOLID-SOLID TRANSITION
 (SOLID I TO SOLID II) (35.4 DEGREES K.).
 OXYGEN, MELTING PRESSURE (63.1 DEGREES K.).
 TABLE, GRAPH
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- 415 SAGENKAHN, M. L. AND FINK, H. L.
 VAPOR-LIQUID EQUILIBRIUM FOR THE SYSTEM OXYGEN-NITROGEN-ARGON.
 PENN. STATE COLLEGE REPT. OSRD NO. 4493 (1945) 74 P.
- ARGON, VAPOR PRESSURE-LIQUID (87 TO 91 DEGREES K.)
 TABLE, EQUATION, GRAPH
- 416 SALINGER, G. L.
 SPECIFIC HEAT OF HELIUM-3.
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 TO 0.1 DEGREES K.), MELTING PRESSURE (NO TEMPERATURE). MEASUREMENT OF
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- 417 SATTERLY, J. AND PATTERSON, J.
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TRANS. ROY. SOC. CAN. SEC. III, 123-7 (1919)
- OXYGEN, HEAT OF VAPORIZATION (90 DEGREES K.).
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- 418 SCHMIDT, G. AND KEESOM, W. H.
NEW MEASUREMENTS OF LIQUID HELIUM TEMPERATURES. I. THE BOILING POINT OF
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COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 250B (1937)
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- HELIOUM, NORMAL BOILING POINT.
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- 419 SCHMIDT, G. AND KEESOM, W. H.
NEW MEASUREMENTS OF LIQUID HELIUM TEMPERATURES. II. THE VAPOUR PRESSURE
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COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 250C (1937)
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- 420 SCHUCH, A. F., GRILLY, E. R. AND MILLS, R. L.
STRUCTURE OF THE ALPHA AND BETA FORMS OF SOLID HELIUM-3.
PHYS. REV. VOL. 110, NO. 3, 775 (1958)
- HELIOUM-3, DENSITY-SOLID ALPHA (1.9 DEGREES K.) AND SOLID BETA (3.3
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- 421 SCHUCH, A. F. AND MILLS, R. L.
THE STRUCTURE OF THE ALLOTROPIC FORMS OF HELIUM-3 AND HELIUM-4.
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19 DEGREES K.). THREE VALUES, ONE FOR EACH OF THE THREE ALLOTROPIC SOLID
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- 422 SCOTT, R. B. AND BRICKWEDDE, F. G.
THE VAPOR PRESSURE OF HYDROGEN DEUTERIDE.
PHYS. REV. VOL. 48, 483 ONLY (1935)
- HYDROGEN DEUTERIDE, VAPOR PRESSURE-SOLID (14 TO 16 DEGREES K.) AND LIQUID
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- 423 SCOTT, R. B. AND BRICKWEDDE, F. G.
MOLECULAR VOLUMES AND EXPANSIVITIES OF LIQUID NORMAL HYDROGEN AND
PARAHYDROGEN.
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PARAHYDROGEN, DENSITY-LIQUID (14 TO 20.4 DEGREES K.). EQUATION FOR
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- 424 SCOTT, R. B., BRICKWEDDE, F. G., UREY, H. C., AND WAHL, M. H.
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DEUTERIUM.
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VAPORIZATION. EQUATION FOR LIQUID VAPOR PRESSURE.
DEUTERIUM (NORMAL), VAPOR PRESSURE-LIQUID (15 TO 20 DEGREES K.). EQUATION
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- 425 SEVRYUGOVA, N. I. AND ZHAVORONKOV, N. M.
DIFFERENTIAL METHOD OF DETERMINATION OF THE VAPOR PRESSURE VARIATIONS
FOR TWO ISOTOPIC FORMS AT LOW TEMPERATURE.
TR. NAUCHN.-ISSLED. FIZ. KHM. INST. VOL. 1963, NO. 3, 94-97 (1963)
- CARBON MONOXIDE, VAPOR PRESSURE-LIQUID (69 TO 101 DEGREES K.)
CARBON MONOXIDE (23 AND 32 PERCENT CARBON-13), VAPOR PRESSURE-LIQUID (69
TO 101 DEGREES K.).
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- 426 SHEARER, J. S.
THE HEAT OF VAPORIZATION OF NITROGEN.
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- NITROGEN, HEAT OF VAPORIZATION (NO TEMPERATURE GIVEN).
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- 427 SHEARER, J. S.
THE HEAT OF VAPORIZATION OF OXYGEN, NITROGEN AND AIR.
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- NITROGEN, HEAT OF VAPORIZATION.
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- 428 SHERMAN, R. H. AND EDESKUTY, F. J.
 P-V-T RELATIONS OF LIQUID HELIUM-3.
 P. 44-9 IN PROC. SYMPOSIUM ON SOLID AND LIQUID HELIUM-3, OHIO STATE UNIV.
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- 429 SHERMAN, R. H. AND EDESKUTY, F. J.
 PRESSURE-VOLUME-TEMPERATURE RELATIONS OF LIQUID HELIUM-3 FROM 1.00 TO
 3.30 DEGREES K.
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 (0.98 TO 3.3 DEGREES K.). EQUATION FOR MELTING PRESSURE
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- 430 SHUPERT, T. C.
 DENSITY DETERMINATION OF CRYOGENIC LIQUIDS AS A FUNCTION OF SATURATED
 VAPOR PRESSURE.
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 OXYGEN, DENSITY-LIQUID (14 TO 30 PSIA). DENSITY IS MEASURED AS A FUNCTION
 OF VAPOR PRESSURE.
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- 431 SIMON, F. AND KIPPERT, F.
 MESSUNGEN ZUR ZUSTANDSGEICHUNG DES FESTEN ARGONS.
 (MEASUREMENTS FOR THE EQUATION OF STATE OF SOLID ARGON.)
 Z. PHYSIK. CHEM. VOL. 135, 113-28 (1928)

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- 432 SIMON, F. AND LANGE, F.
 DIE THERMISCHEN DATEN DES KONDENSIERTEN WASSERSTOFFS.
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 Z. PHYSIK VOL. 15, 312-21 (1923)
 HYDROGEN, HEAT CAPACITY-SOLID (11 TO 13 DEGREES K.) AND LIQUID (15 TO 18
 DEGREES K.), HEAT OF MELTING (13.9 DEGREES K.) AND HEAT OF VAPORIZATION
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- 433 SIMON, F., RUHEMANN, M. AND EDWARDS, W. A. M.
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 (RESEARCHES ON THE MELTING CURVES OF HELIUM I.)
 Z. PHYSIK. CHEM. (LEIPZIG) VOL. B1, 340-4 (1928)

HELUM, MELTING PRESSURE (12 TO 20 DEGREES K.), LATENT HEAT OF MELTING
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434 SIMON, F., RUHEMANN, M. AND EDWARDS, W. A. M.
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 Z. PHYSIK. CHEM. (LEIPZIG) VOL. B5, 62-77 (1929)

HELIUM, MELTING PRESSURE.
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435 SIMON, F., RUHEMANN, M. AND EDWARDS, W. A. M.
 DIE SCHMELZKURVEN VON WASSERSTOFF, NEON, STICKSTOFF UND ARGON.
 (MELTING CURVES OF HYDROGEN, NEON, NITROGEN AND ARGON.)
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 SEE NUMBER 436 FOR CORRECTION.

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436 SIMON, F., RUHEMANN, M. AND EDWARDS, W. A. M.
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437 SIMON, F. AND STECKEL, F.
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 15 UND 20 GRAD ABS.
 (PRELIMINARY DETERMINATION OF THE HEAT OF MELTING AND DENSITY OF HELIUM
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HELIOUM, MELTING PRESSURE (14.9 TO 20.4 DEGREES K.), DENSITY-SOLID AND
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438 SIMON, F. AND VON SIMSON, C.
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 Z. PHYSIK VOL. 25, 160-4 (1924)

ARGON, DENSITY-SOLID (40 DEGREES K.). SPECTROGRAPHIC DETERMINATION.
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- 439 SIMON, M.
ON THE THERMODYNAMIC PROPERTIES OF HYDROGEN-DEUTERIUM SOLID MIXTURES.
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- PARAHYDROGEN, VAPOR PRESSURE-SOLID (13.8 DEGREES K.)
DEUTERIUM (ORTHO), VAPOR PRESSURE-SOLID (13.8 DEGREES K.).
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- 440 SMITH, A. L., HALLETT, N. C. AND JOHNSTON, H. L.
CONDENSED GAS CALORIMETRY. VI. THE HEAT CAPACITY OF LIQUID PARAHYDROGEN
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- 441 SMITH, B. L.
REFRACTIVE INDEX OF SOLID KRYPTON AND SOLID ARGON.
PHIL. MAG. VOL. 6, 939-42 (1961)
- ARGON, DENSITY-SOLID (77 TO 83 DEGREES K.).
GRAPHICAL DATA ONLY
- 442 SOMMERS, H. S.
VAPOR PRESSURES OF HELIUM-3 AND HELIUM-4 MIXTURES BELOW THE LAMBDA-POINT.
PHYS. REV. VOL. 88, NO. 1, 113-27 (1952)
- HELIUM-3, VAPOR PRESSURE-LIQUID (1 TO 2.2 DEGREES K.).
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- 443 SREEDHAR, A. K.
PROPERTIES OF HELIUM THREE AT VERY LOW TEMPERATURES.
OHIO STATE UNIV., COLUMBUS, PH. D. THESIS (1958) 127 P.
- HELIUM-3, HEAT CAPACITY-LIQUID (0.08 TO 0.8 DEGREES K.).
CODED FROM ABSTRACT.
TABLE, GRAPH
- 444 STEVENSON, R.
SOLID METHANE. CHANGES IN PHASE UNDER PRESSURE.
J. CHEM. PHYS. VOL. 27, NO. 3, 656-8 (1957)
- METHANE, SOLID-SOLID TRANSITION (ALPHA TO GAMMA) (30 TO 65 DEGREES K.),
(ALPHA TO BETA) (25 TO 30 DEGREES K.), (BETA TO GAMMA) (10 TO 30 DEGREES
K.) AND (GAMMA TO DELTA) (5 TO 25 DEGREES K.).
DATA IS ALL IN THE FORM OF A PHASE DIAGRAM.
GRAPHICAL DATA ONLY

- 445 STEVENSON, R.
 COMPRESSIONS AND SOLID PHASES OF CARBON DIOXIDE, CARBON DISULFIDE,
 CARBONYL SULFIDE, OXYGEN, AND CARBON MONOXIDE.
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 (II TO III) (28 TO 44 DEGREES K.).
 CARBON MONOXIDE WAS INVESTIGATED FOR A SOLID TRANSITION BUT NONE WAS
 FOUND. THE P-T DIAGRAM OF THE SOLID DOES NOT REPRESENT ANY SATURATION
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 GRAPHICAL DATA ONLY
- 446 STEWART, J. W.
 COMPRESSION OF SOLIDIFIED GASES TO 20,000 KILOGRAMS PER SQUARE CENTIMETER
 AT LOW TEMPERATURE.
 J. PHYS. CHEM. SOLIDS VOL. 1, 146-58 (1956)
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- 447 STEWART, J. W.
 PHASE TRANSITIONS AND COMPRESSIONS OF SOLID METHANE, DEUTEROMETHANE, AND
 OXYGEN.
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 (I TO III) (33 TO 120 DEGREES K.) AND (II TO III) (5 TO 33 DEGREES K.).
 DEUTEROMETHANE, SOLID-SOLID TRANSITION (I TO II) (30 TO 40 DEGREES K.),
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 OXYGEN, SOLID-SOLID TRANSITION (ALPHA TO BETA) (45 TO 65 DEGREES K.) AND
 (BETA TO GAMMA) (28 TO 50 DEGREES K.).
 GRAPHICAL DATA ONLY
- 448 STEWART, J. W.
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 ORDER TRANSITION AT THIS TEMPERATURE AND A PRESSURE OF APPROXIMATELY
 1100 ATMOSPHERES. A RANGE IS GIVEN FOR THE CHANGE IN VOLUME AT THE
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- 449 STOCK, A., HENNING, F., AND KUSS, E.
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 GRAD.
 (VAPOR PRESSURE TABLES FOR TEMPERATURE DETERMINATIONS BETWEEN + 25
 DEGREES AND - 185 DEGREES.)
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- OXYGEN, VAPOR PRESSURE-LIQUID (88 TO 94 DEGREES K.).
 METHANE, VAPOR PRESSURE-LIQUID (91 TO 123 DEGREES K.).
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450 STOCK, A. AND NIELSON, C.
 EIN EINFACHES UND EMPFINDLICHES THERMOMETER FUR TIEFE TEMPERATUREN.
 (A SIMPLE AND SENSITIVE THERMOMETER FOR LOW TEMPERATURES.)
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NITROGEN, NORMAL BOILING POINT
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451 STRELKOV, P. G., BOROVIK-ROMANOV, A. S. AND ORLOVA, M. P.
 THERMODYNAMIC STUDIES AT LOW TEMPERATURES. I. MEASUREMENT OF
 TEMPERATURES BETWEEN 12 AND 300 DEGREES K.
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OXYGEN, NORMAL BOILING POINT, SOLID-SOLID TRANSITION POINTS, TRIPLE POINT
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 RUSSIAN

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 SPECIFIC HEAT OF LIQUID HELIUM-3 DOWN TO 0.054 DEGREES K.
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 GRAPHICAL DATA ONLY

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 SPECIFIC HEAT OF LIQUID HELIUM 3.
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 GRAPHICAL DATA ONLY

456 STRYLAND, J. C., CRAWFORD, J. E. AND MASTOOR, M. A.
 MELTING TEMPERATURES OF KRYPTON, XENON, AND METHANE AT PRESSURES UP TO
 3000 ATMOSPHERES.
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METHANE, MELTING PRESSURE (110 TO 146 DEGREES K.).
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- 457 SWENSON, C. A.
THE LIQUID-SOLID TRANSFORMATION IN HELIUM NEAR ABSOLUTE ZERO.
PHYS. REV. VOL. 79, 626-31 (1950)

HELIUM, MELTING PRESSURE (1.0 TO 1.6 DEGREES K.), DENSITY-SOLID (1.0 TO 1.6 DEGREES K.) AND LIQUID (1.0 TO 1.6 DEGREES K.). EQUATION FOR MELTING CURVE.
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- 458 SWENSON, C. A.
THE LIQUID-SOLID TRANSFORMATION IN HELIUM FROM 1.6 TO 4 DEGREES K.
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- 459 SWENSON, C. A.
THE BLOCKED CAPILLARY METHOD FOR DETERMINING MELTING PRESSURES.
THE MELTING CURVE OF HELIUM FROM 1.5 DEGREES TO 4 DEGREES K.
PHYS. REV. VOL. 89, 538-44 (1953)

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TABLE, GRAPH
- 460 SWENSON, C. A.
NEW MODIFICATION OF SOLID NITROGEN.
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- 461 SYDORIAK, S. G., GRILLY, E. R. AND HAMMEL, E. F.
CONDENSATION OF PURE HELIUM-3 AND ITS VAPOR PRESSURES BETWEEN 1.2 DEGREES AND ITS CRITICAL POINT.
PHYS. REV. VOL. 75, NO. 2, 303-5 (1949)

HELIUM-3, VAPOR PRESSURE-LIQUID (1.2 TO 3.3 DEGREES K.).
TABLE, GRAPH
- 462 SYDORIAK, S. G., MILLS, R. L., AND GRILLY, E. R.
PVT ANOMALIES IN HELIUM-3 NEAR ITS MELTING CURVE.
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- 463 SYDORIAK, S. G. AND ROBERTS, T. R.
THERMODYNAMIC PROPERTIES OF LIQUID HELIUM THREE. VAPOR PRESSURES BELOW 1 DEGREE K.
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- HELIUM-3, VAPOR PRESSURE-LIQUID (0.4 TO 1.0 DEGREES K.). EQUATION FOR LIQUID VAPOR PRESSURE.
TABLE, EQUATION
- 464 SYDORIAK, S. G. AND SHERMAN, R. H.
THE 1962 HELIUM-3 TEMPERATURE SCALE. I. NEW VAPOR PRESSURE COMPARISONS.
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- 465 TAYLOR, R. D. AND KERR, E. C.
THE THERMAL COEFFICIENT OF EXPANSION OF LIQUID HE-3 FROM 0.55 TO 1 DEGREE K.
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THIS IS AN ABSTRACT ONLY.
TABLE
- 466 TIMROT, D. L. AND BORISOGLEBSKIY, V. P.
THE DENSITY OF LIQUID OXYGEN ON THE SATURATION CURVE.
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- 467 TIMROT, D. L. AND BORISOGLEBSKIY, V. P.
EXPERIMENTAL INVESTIGATION OF THE DENSITY OF LIQUID OXYGEN AT -190 TO -120 DEGREES C. AND PRESSURES TO 200 KILOGRAMS PER SQUARE CENTIMETER, INCLUDING THE SATURATION CURVE.
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- OXYGEN, VAPOR PRESSURE-LIQUID (83 TO 153 DEGREES K.) AND DENSITY-LIQUID (83 TO 153 DEGREES K.).
TABLE, GRAPH
- 468 TRAPENZNIKOVA, O. N. AND MILJUTIN, G. A.
SPECIFIC HEAT OF METHANE UNDER PRESSURE.
NATURE VOL. 144, 632 (1932)
- METHANE, SOLID-SOLID TRANSITION (20.6 DEGREES K.). THE TRANSITION TEMPERATURE WAS DETERMINED AS A FUNCTION OF PRESSURE BY MEANS OF AN ANOMALY IN SPECIFIC HEAT MEASUREMENTS.
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NEON, VAPOR PRESSURE-SOLID (15 AND 20 DEGREES K.).
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ALL OF THE DENSITY MEASUREMENTS WERE MADE IN THE SUBCOOLED REGION, BUT
THEY WERE FITTED TO AN EQUATION WHICH WAS USED TO CALCULATE DENSITY AS A
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EQUATION
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HYDROGEN (NORMAL), VAPOR PRESSURE-LIQUID (20 TO 32 DEGREES K.), NORMAL
BOILING POINT, EQUATION FOR LIQUID VAPOR PRESSURE.
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THE MAXIMUM AND MINIMUM DENSITY AND HEAT OF EVAPORATION OF HELIUM.
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TABLE, EQUATION
- 479 VEGARD, L.
DIE STRUKTUR VON BETA-STICKSTOFF UND DIE VERSCHIEDENE
PHOSPHORESENZFAHIGKEIT DER BEIDEN FORMEN DES FESTEN STICKSTOFFS.
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 CARBON MONOXIDE, DENSITY-SOLID BETA (65 DEGREES K.).
 DETERMINED FROM DIFFRACTION PATTERN.

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 L'HELIUM LIQUIDE.
 (VAPOR PRESSURE OF SOLID AND LIQUID NEON AND OF LIQUID HELIUM.)
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THE TERNARY SYSTEM CARBON MONOXIDE-NITROGEN-HYDROGEN AND THE COMPONENT
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 NITROGEN, MELTING PRESSURE (64 TO 68 DEGREES K.), TRIPLE POINT. EQUATION
 FOR MELTING CURVE.
 TABLE, EQUATION

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 MELTING PRESSURE (SOLID ALPHA TO LIQUID II) (1.2 TO 1.4 DEGREES K.) AND
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 TABLE, EQUATION

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 BESTIMMUNG DES GLEICHGEWICHTES SIEDENDER STICKSTOFF-ARGON-SAUERSTOFFGEMISCHES BEI 1000 TORR.
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- 495 WHITE, D., HU, J. H. AND JOHNSTON, H. L.
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 DEUTERIUM (ORTHODEUTERIUM), HEAT OF VAPORIZATION (24.3 TO 37.5 DEGREES K)
 TABLE, GRAPH

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- 498 WITT, G.
 UBER DIE VERDAMPFUNGSWARME FLUSSIGER LUFT.
 (THE HEAT OF VAPORIZATION OF LIQUID AIR.)
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- 499 WORLEY, R. D., ZEMANSKY, M. W. AND BOORSE, H. A.
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 L'OXYDE DE CARBONE SOUS LA PRESSION ATMOSPHERIQUE.
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 TEMPERATURE, NORMAL BOILING POINT.
 AIR, NORMAL BOILING POINT (81 DEGREES K.).
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- 502 WROBLEWSKI, S.
 UEBER DEN GEBRAUCH DES SIEDENDEN SAUERSTOFFS, STICKSTOFFS, KOHLENOXYDS,
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- 503 WROBLEWSKI, S.
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 (THE BEHAVIOR OF LIQUID ATMOSPHERIC AIR.)
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- 504 WROBLEWSKI, S.
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 SUR LE VOLUME ATOMIQUE DE L'OXYGENE ET DE L'AZOTE.
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 OXYGEN, EQUATION FOR LIQUID DENSITY (73 TO 155 DEGREES K.).
 TABLE, EQUATION
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- 506 YUSHKEVICH, N. F. AND TOROCHESHAIKOV, N. S.
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ONE TABULAR VALUE